Home Recording Studio pt. 2

HUB

The Computer Paper

February 2008   Volume 21   Number 02   Free

From CES:

On the show floor
PC Developments
Sustainable tech
UMPC Roadmap

&

Wacom's Latest
Graphics Tablets

The Ultimate Un-Office

Remote PC Access

+

In the Lab:
Wireless Aircards

HUB The Computer Paper

Contents

12

16

26

36

www.hubcanada.com

Editorial

The book is closed on another Consumer Electronics Show in Las Vegas. This year's show ran Jan. 7-10 and attracted over 130,000 attendees. 2,700 companies apparently exhibited 20,000 products.

Overall, CES 2008 was a show about evolutionary as opposed to revolutionary demos and product announcements. Spec sheet updates for existing products, lighter, thinner displays with larger and brighter screens, smaller portable PCs and faster and more energy efficient computer processors. All welcome additions to the tech landscape and a sign of good things to come but not much in the way of excitement.

In a trade show where everyone is scouting the next big thing and where the major names don't seem to be offering it, the climate is ripe for an innovative idea to capture the collective attention.

BUG Labs has just such an idea.

The BUG is an innovation we've been watching from afar for some time. It's an interesting idea that aims to bring the open source idea to hardware as well as software.

We've seen how effective open source can be. Mozilla's Firefox Web browser based on the open source Gecko engine has gone from being a virtual unknown to capturing almost 17 per cent of market share for browsers, according to Wikipedia. It has inspired countless users to create add-ons and extensions: software code that changes the browser's behaviour. Everything from a file queuing downloader that can grab every image from a Web page to extensions for downloading videos from YouTube, mouse gesture-based commands, spell checkers, del.icio.us bookmark integration and many, many more have been created and released.

The list of open source software is near endless and major entries gain a large following of users and developers, all contributing in their own ways.

Using the Firefox example, add-on authors vary from someone who creates a small piece of code in order to optimize their own browsing experience and then decides to share the code with the community to big name companies tying in their services. Del.icio.us, for example, is owned by Yahoo! and a full-service Firefox add-on offers a seamless integration of browser and service.

The open source software community encourages development, whether it's a browser theme created by an individual or an ambitious team project with a much larger scope. The source code is available for all to see, tweak and add on to.

Rather than smaller development teams or individuals having to create their own word processor from the ground up in order that it might have a spell checker for Esperanto, users can see the source code of an application (like OpenOffice.org for example) and create their own packages to customize the application then share the code for anyone looking to add in the same functionality to build upon.

In the case of BUG, the device creator Bug Labs creates the platform (called the BUGbase), divulges all the details of its creation and makes its own modules and offers development tools. The snap-on lens assembly turns the BUG in to a 5MP still and video camera. Add the LCD touch screen module and you get a viewfinder. Snap on the GPS module and you're navigating to the shoot location. It's only a matter of time before someone creates software for geo tagging the pictures you take. And that's an obvious one. What about adding on the accelerometer module and capturing that data too? A very specialized application? Sure, but someone's bound to do it. And therein lies the beauty of the idea.

It's very early days yet; while the device went on sale on Jan. 21, only developers or serious hobbyists should seriously consider purchase. As things progress, Bug Labs makes mention of 81 modules in the very early concept stages with a plan to release four per quarter. Credit card and RFID scanners are but two that have been discussed. I sincerely doubt that all will make it to market. However, it has the potential to open up an interesting paradigm in electronics. Building on the BUGbase platform, major players in computers and consumer electronics could be playing alongside small, indy companies or individuals running on idea capital. If it does take hold, we could be seeing some innovative hardware and software solutions and unprecedented gadget customization.

The BUG system is designed more for development of new devices that are manufactured using BUG's open hardware architecture. However, it's not hard to imagine a group of hobbyists using the BUG in its native form, snapping together the building blocks Lego style to create customized devices and pulling together software customized to their individual needs.

As in open source software, the foundation is built so developers can focus on making their own additions as innovative, usable and sophisticated as possible. These developments become the foundation upon which the next wave of development builds and with a little luck, the wave after that.

Enjoy the issue,
Andrew Moore-Crispin

DUPLICATE. ARCHIVE. ERASE. TEST. PUBLISH.

CD/DVD/BD-R PUBLISHERS

The XR-Series disc publishers are designed for mission-critical applications that require fast and efficient disc burning and printing, rock-solid reliability and professional-quality recorded and printed CDs, DVDs, and Blu-ray (BD) Discs.

XR-CD/DVD 50 Disc Publisher	$ 3095
XR-Blu CD/DVD/BD 50 Disc Publisher	$ 4896
XRP CD/DVD 100 Disc Publisher	$ 4626
XRP-Blu CD/DVD/BD 100 Disc Publisher	$ 8226
XRn CD/DVD Network 50 Disc Publisher	$ 6426
XRn-Blu CD/DVD/BD Network 50 Disc Publisher	$ 8226

HARD DISK CLONING DEVICES

The Disk Jockey PRO is the latest in the award winning Disk Jockey line of portable hard disk duplication and diagnostic products. The Disk Jockey PRO was designed specifically for those who spend a lot of time working with computers and computer hard disk drives.

"...if you're a drive juggler, you'll find the Disk Jockey the greatest thing since mounting rails. Better, actually."
CNN Mag.com

At MDS, we have IDE/PATA, SATA, SCSI, SAS disk drive cloning devices ranging from 1-1 up to 1-59 targets from 1 source.

Disk Jockey Pro 1-1 UDMA IDE & SATA Copier	$ 449
LM-2 IT Portable Universal HDD Copier Hard Case	$ 699
IM Solo-3 IT 1-2 IDE, SATA & SCSI Copier	$ 1999
IM Solo-3 IT 1-2 IDE, SATA & SCSI Forensic Copier	$ 2495

FLASH MEMORY DUPLICATORS

Introducing the newest members of our flash memory copier family. These affordable and easy to use portable devices are perfect for small to medium production USB, SD, MMC and CF cloning projects. These units include a variety of features including duplication, testing, verification and job logging.

Applications include pre-loading of card for GPS navigation systems, PDA's, Smart phones, Embedded Systems, photo, video and audio digital players and many more.

CF400, 1-4 CompactFlash (CF) Copier	$ 999
MDS128-USB, 1-8 USB Thumb Drive Copier	$ 1999
MDS128-SD, 1-8 USB to Secure Digital Copier	$ 2189
M6210, 1-10 USB Thumb Drive Copier	$ 2649

MEDIA DUPLICATION SERVICES

CD Duplication Package Deals

100 CDs with Full Colour Digital Printing	$ 95
100 CDs with Full Colour Thermal Printing	$ 195
500 CDs with Full Colour Digital Printing	$ 469
500 CDs with Full Colour Thermal Printing	$ 969

DVD Duplication Package Deals

100 DVDs with Full Colour Digital Printing	$ 99
100 DVDs with Full Colour Thermal Printing	$ 199
500 DVDs with Full Colour Digital Printing	$ 495
500 DVDs with Full Colour Thermal Printing	$ 995

MDS specializes in HIGH SPEED, HIGH VOLUME CD, DVD, and Flash Memory DUPLICATION and REPLICATION. We provide CUSTOM PACKAGING and PRINTING to suit any duplication or replication need you or your clients might have.

Media Duplication Systems

Tel: 1-888-967-1999
Email: sales@mdsfirst.com
Web: www.mdsfirst.com

Media Duplication Systems (MDS) is a leading supplier of media duplication, testing, recovery and computer forensics systems. Our cloning systems are used throughout the world in thousands of IT departments, as well as by the largest law enforcement agencies and the military.

We accept Government and Corporate Purchase Orders.

VISA   MasterCard

Show Time!

Photos telling their own story on and off line

It's an often-stated fact that compared to the film days we take more pictures but make fewer prints in the digital era. That doesn't mean we enjoy our images less. Digital affords so many more viewing options beyond the 4x6 snapshot—cell phones, media players, TV sets and their wall engulfing digital projector cousins, computer monitors and even that relatively new development, the digital photo frame. These are hardware-based forms. I haven't even mentioned the Internet, which can give your images a global audience but also changes the presentation dynamic.

The basic show

Here's the fundamental presentation challenge: how to choose and organize photos in an engaging and coherent way. This isn't a new problem. You may know someone who has spent a lot of time organizing 35 mm slides into Carousel projector trays to make that perfect slide show. The term "slide show" is pure analogue but it's persisted with digital.

With digital, the objective is the same even though the tools and specific procedures may be different. If you use image-organizing software you have a head start because your images will already have been put into an organized collection. For example, one common default organizing method is by date, so if you wanted to make some kind of presentation from your Christmas photos, the organizer will let you quickly find all the photos by date. You can further tweak these basic organizing categories with flags, tags and ratings to pull out quite a narrow selection from the thousands of images you may have accumulated on your computer hard drive.

Then what? Entry- to mid-level image editing packages like Adobe Photoshop Elements or Corel Photo Paint typically include a presentation module that allows you to build a slide show.

As the software has evolved these modules have become quite versatile. The slide show creator in PS Elements 6.0, for example, has an interface that looks like a video editor with image and audio tracks organized along a timeline. You can add a few motion effects to the images, such as pan or zoom, and choose one of several transition effects between slide changes. You can also include an audio track for music or narration. As media players and smartphones have become more popular, many presentation software programs have added features that automatically scale your show so that it will easily play on a smartphone, BlackBerry or other media device.

Video killed the radio star.
Internet brought her back

Photographers are naturally focused on the visual part of the presentation, and as a consequence, audio is often ignored or under-rated and thrown in as an afterthought. A typical way to add audio is to take your favourite pop or classical tune and sync the image changes to the beat of the music. Writing your own original musical score seems somewhat ambitious, yet there are tools readily available to let you do just that (see *The Making of a Home Recording Studio, Part II* in this issue). With a program like Sony Acid Music Studio for the PC or GarageBand for the Mac, you can build quite sophisticated and original sounding tracks using preloaded or downloaded loops.

Another development giving a boost to audio is the rise in popularity of podcasting, which has given us new tools as well as techniques for making the audio or vocal parts of any presentation stronger. For example a number of companies make high quality microphones that simply plug into a computer's USB port. For Mac users, one of the useful new features in GarageBand 08 is the multi-take recording feature. This allows you to make several versions or takes of the same audio—a narration script for example—and then select the best one for your final production.

Online, anything goes

Many of us just want to throw our latest batch of photos onto the Internet and let people look at their own convenience. In your role as the viewer or audience member, you may know that many photo sharing sites allow you to turn anyone's collection into a simple slide show by just making a few mouse clicks. You can then sit back and let the images flow by. In your roles as the presenter or poster this raises a question: Is it better to let your images be seen as an unscripted series of images that a photo sharing site automatically creates, or as a tightly produced "slide show" in the traditional sense?
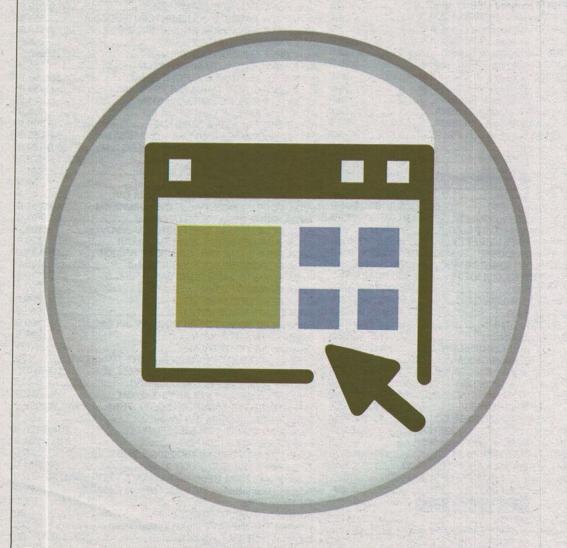
How you answer that question will depend a lot on what impact you want to make.

The traditional slide show has a few assumptions attached to it. It assumes an audience whose main reason to assembling it to see the presentation at hand. It also assumes a linear flow, a story in pictures that has a beginning, middle and end. It's assumed the audience will watch it from beginning to end, in other words the slide show is a discrete event, however minor.

You can't make any of those assumptions with an online gallery of photos. Part of it has to do with the non-linear structure itself. One of the earliest forms of Internet presentation is the Photo-a-Day, or PAD. Many people still create them and you'll find PAD sections in most popular photo sharing sites. The organization isn't necessarily around any specific subject and therefore there isn't necessarily a story that is being told through the photos. The passage of time and slices of life within the time frame is itself the story. People can begin viewing the images at any time, or hop around the time scale without missing part of the message.

This process of site or page grazing is one of the central aspects of the Internet experience, and what makes it a unique medium. It lets people control the timing, pacing and content of what they see much more than traditional media like movies, TV or the traditional slide show. That's not necessarily a bad thing, but it is something to keep in mind when you think about an online presentation.

By David Tanaka

Your Data Anywhere

Remote access and control using the Internet

The desire to access your home or office computer from wherever you find yourself isn't something born of the Internet age. Programs like pcAnywhere were used to great effect when the communications infrastructure consisted of slow analogue modems used over conventional phone lines. Symantec's pcAnywhere is still around; it's now on version 12 and positioned as an enterprise tool. Fortunately, there is no shortage of excellent solutions designed for the consumer and home/small business. Even better, some of them are free.

Remote control and remote access aren't the same thing. If all you need from the remote computer is a file or even thousands of files, then remote access in some form is what you want. However, if you are at

home and needing to work with the data and applications on your office computer as though you were actually sitting in front of it, remote control software is the answer. Let's look at a few of the best solutions in that category.

GoToMyPC is probably the best-known remote control application. It is an Internet service that requires that a small application be downloaded and then installed on the host computer, the one that will be controlled remotely. This needs to be done just once. Setup is automatic and takes two minutes. Once this is completed, and suitable high-security passwords have been chosen, you need to remember to make sure that you leave your PC on and connected to the Internet.

GoToMyPC

Any Internet-Connected PC

Your Office PC

Then, using the computer and browser of your choice, navigate to www.gotomypc.com, provide the two passwords, click connect and your PC desktop will appear in front of you. Regardless of where you are physically, you can start working on your PC as if you were sitting in front of it.

GoToMyPC is easy to use, reliable and highly-secure. It has no conflicts with firewalls or any other kind of network security you may have at home, on your office network, or anywhere else you are likely to use it. It has no significant drawbacks other than cost. It costs $19.95 per month with no commitment or $179.40 per year on an annual contract. All costs are in U.S. dollars. You only pay for the computer you wish to access. There is no charge and no limit on the number of computers or wireless devices that can access and control this target computer.
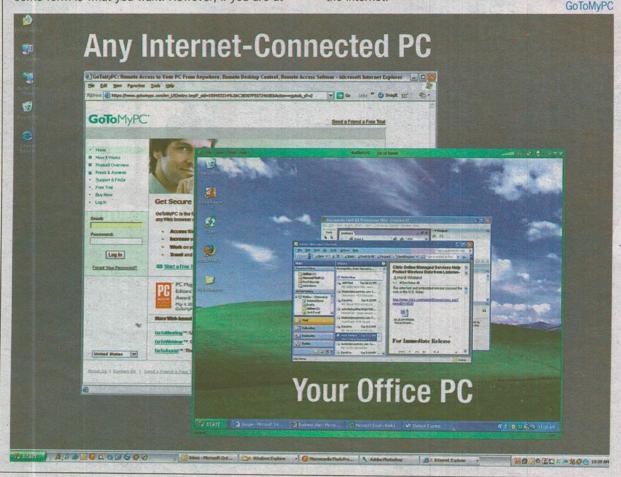
You can use any web browser (running on a Windows, Mac, or Linux system) or Pocket PC, Microsoft Windows Mobile or Windows CE wireless device to control your host computer in real time, without needing to install any software or modify any settings. You are able to use your computer over the Internet as though you were seated in front of it even though you may be in an Internet café in a foreign country.

GoToMyPC provides most of the features you are likely to want and a few you may not have thought of. You are able to view your desktop in true 24-bit color. With remote printing, you can print documents on the target computer to whatever printer you have available locally. For example, you're just seconds away from a hard copy of an important PageMaker file even if the computer you are using doesn't have an installation of this Adobe application.

GoToMyPC lets you synchronize folders between your computer and the remote computer. You can use drag and drop if you like. There's sound, too, so you can listen to music, voice mail, and all other sounds from your remote PC. There is automatic muting on the host PC, assuring you that no one in your office can hear your sensitive voicemail as you listen to it.

Although GoToMyPC is excellent, it is not without competition.

LogMeIn has two remote control solutions: Pro, which

PLAY SMARTER

matches up well to GoToMyPC in most respects, and Free, which provides basic remote control services but minimal features. If you don't need additional features, there's no reason to look beyond LogMeIn Free.

On the other hand, the features in LogMeIn Pro are useful and occasionally real timesavers. They include remote printing, sound, drag and drop, mini meeting (online meeting with anyone you invite), file transfers, and drive mappings. Are these worth $12.95 /month or $69.95 /year on an annual contract? Definitely, if you need them.

Pro costs much less than GoToMyPC. The price difference is even greater if there are several PCs to control because LogMeIn has aggressive volume discounts. In January they were offering a Winter Weather Special of $19.75 per month for five PCs or $199.75 on an annual contract. As with GoToMyPC, you need to pay only for the computer you wish to control. You have unlimited access to that target computer from all computers with an Internet connection.

And now, for something completely different. Microsoft's FolderShare is a free service that is described very nicely by its name. It lets you establish a private peer-to-peer network over the Internet to share and synchronize files across multiple computers. Changes to the shared folder on one computer are synchronized automatically with all of the other computers. In this way all computers always have the latest version of a file, no matter where it has been modified. Their shared folders are always in sync.

FolderShare is very simple to implement and to use. It is easy to add to any computer. It has almost no learning curve. If your goal is to be sure that you always have access to the latest version of every file in a shared folder, this may be the best solution. It can be used in conjunction with a remote control solution such as LogMeIn Free to give you the power and flexibility to solve many mobile computing problems.

There are many other practical and low-cost approaches to providing remote access capabilities but some require more expertise to install. You could set up a VPN (virtual private network) with tools that are part of Windows. If you needed remote control as well you could use Remote Desktop, another component of Windows.

Here's yet another solution, somewhat easier to implement. You can give yourself access to files on your home or office computer by installing FTP server software. Then those files, protected by a strong password, will be available to other computers on the Internet through a web browser or FTP client software. There is a good choice of free FTP servers and clients, including open source software from FileZilla (which is part of the same community that has produced Firefox and Thunderbird).

By Issie Rabinovitch

Canada's own 01 Communique offers its I'm InTouch (www.imintouch.net) software for a monthly subscription of $9.95 or an annual $99.95. The basics are all present and accounted for: Remote PC control, file transfer, printing of remote documents, working within firewall settings without altering them. Users can connect via a PC running the software, a Web browser, a smartphone or other data enabled cell phone for quick access to remote files. It also brings a few security features to the table including remote stealth monitoring of PC use, configurable cell phone notification for new emails on the monitored PC and access to a web cam connected to the PC for monitoring the office, your goldfish or houseplants while away.

As a member of the BlackBerry Alliance, I'm InTouch also has a BlackBerry application. The app is limited to primarily file and email management of the remote PC. Using the BlackBerry application, users can find and send files from a remote PC from their handheld.

— HUB: TCP

The Making of a Home Recording Studio

Part 2: Of miking, recording and mixing

A hearty hello again to all you budding home studio engineers. Last month we discussed the central hub of any modern home studio, the digital audio workstation (DAW). This time around, we'll look at the all the essential and not-so-essential bits and pieces (and software) you'll need to complete your setup. Remember, our target audience here is the newbie, not the pro, so we won't get into the high-end stuff. Sorry, David Foster.

And without further ado, let's begin...

Control It

If you're recording analogue sounds (guitars, drums, etc) rather than working strictly in the electronic domain (computer-based synths, loops, and the like), you need a way to get those sounds into your DAW. Truth be told, many small-scale home studio hobbyists can make do with the single, double, or quad inputs integrated in their sound cards (discussed last issue). However, if you foresee recording a ton of sources simultaneously, if you don't want to be tethered to your DAW or if you're simply more comfy with traditional studio mixing boards, you may want to invest in a control surface.

Control surfaces can take many forms, some with additional inputs/outputs (I/O), some with an array of conventional studio-type knobs and sliders, and some with a mixture of both.

Your ultimate decision will be based very much upon what you need. A basic mixing board—a long-time staple in sound engineering—is a good start. It allows you to connect a wide variety of sources (up to 64 or more!), shape the sound via real knobs rather than software controls, plug in headphones for late night recording and more. Many include preamps, necessary for recording anything via microphone. Several models from cost-conscious manufacturers such as Behringer are available under the $200 mark.

Digital mixers and analogue/digital hybrids up the ante, and the cost, considerably, but offer built-in effects and a host of other high-end attributes. Some don't even need a sound card, connecting instead via FireWire or USB.

Conversely, some control surfaces function solely as a keyboard replacement. Frontier Design's Tranzport ($250) is one such solution, an ideal tool when you find yourself stuck behind a drumkit or a guitar, halfway across the room from your DAW. Featuring RF wireless technology and a compact design that allows you to stick it in your pocket, the Tranzport handles most important functions and is a convenience many home studio fans can't do without.

Sing it

A good mic is essential to the effective recording of your dulcet tones. Fortunately, with Shure's time-honored SM58 ($100), you don't need to drop the big bucks. Featuring a noise-minimizing filter and a frequency response geared to the human voice, the SM58 has long been the vocal mic of choice—just as Shure's SM57 is to miking an acoustic or electric guitar amp.

Roland TDM-10

Drum miking is infinitely more complex and can involve as many as eight or more separate mics, but you can do a decent job with two or three SM57s and an AKG D112 ($300) for the kick drum. Add an overhead AKG C1000S ($300) for extra ambience. Or ditch the drum-miking idea entirely and invest in an electronic set that hardwires to your PC, such as Roland's V-Drums ($500 - $5,000 and beyond).

Hear it

When listening to your masterworks, neutrality is the key. Let the buying public crank the treble and the bass if they so choose. With that idea in mind, you'll probably want to invest in purpose-built studio monitors as opposed to standard home speakers because monitors are geared for neutrality.

Behringer makes a strong statement here too with its B2031 Truth Active Monitors. They may not seem inexpensive at $500, but they are powered, so you won't need an external amplification system. On the passive monitor front (separate amp required), Alesis' Monitor1 MkII ($300) is a solid budget alternative, while Tannoy's Reveal 6 ($600) is just fine for the upscale crowd. Remember, once you've finished mixing your project, burn it to a disk and play it on every conceivable audio system you can find. What sounds good on a car stereo may stink on your home entertainment center.

Line 6 Pod X3

Shred it

Guitarists, listen up. Miking a guitar amp so it doesn't sound like a buzzsaw and won't wake up the neighbours ain't easy. Fortunately, you don't necessarily need to mike. Today, many guitarists turn to all-in-one effect boxes/amplifier simulators such as Vox's Tonelab SE, Line 6's POD XT, or any of Digitech's wide range of guitar processors. All of the above connect directly to your recording rig via cable, thus allowing guitarists to play at virtually any volume, recreate the sound of virtually any amp, and eliminate miking hassles.

Alternately, you can do away completely with external hardware and instead make use of the latest crop of software guitar solutions. The primary advantage to packages such as Native Instruments Guitar Rig 3 ($300, www.native-instruments.com), IK Multimedia's Amplitube 2 ($300, www.amplitube.com), and Izotope's Trash ($199 US, www.izotope.com) is that your guitar sound enters the computer completely clean, ready for you to alter it over and over again later, via software.

Design it

There are literally hundreds of DAW software applications on the market, many of which specialize in a given aspect of audio production. Those with unlimited finances or who want software with unlimited potential would be wise to check out the high-end ($300-plus) offerings from respected DAW software purveyors such as Cakewalk, Ableton, or Steinberg. Cakewalk's Sonar Studio 7 ($500) and Ableton's Ableton Live 7 ($500) are both exceptionally popular. If your wallet's not quite so fat, or if you don't see yourself going beyond a few instruments and effects, there's a variety of

low-cost yet respected alternatives, including Cakewalk's Guitar Tracks Pro 3 ($120), Cockos Inc's Reaper (US$50, www.reaper.fm) , and n-Track Studio 5 (US$64, www.ntrack.com).

If you favor audio loops (short pre-recorded audio files that sound like continuous pieces of music when repeated), Sony's venerable ACID Pro will do it all—as it should for $500. Luckily, ACID's little brother, ACID Music Studio, does a lot too and costs much less ($70). Dance music enthusiasts could do a lot worse than Image Line's FL Studio (nee Fruity Loops) series, available in a variety of flavours and prices.

Once you've selected your recording software, you'll also want to investigate plug-ins. Ranging from virtual instruments to studio-quality effects and a ton of nifty things in between, plug-ins are software utilities that install within your DAW software and let you to get seriously creative. If you need convincing, check out Celemony's Melodyne (www.celemony.com), a super-cool plug-in that allows you to adjust pitch, stretch time and do just

about anything else to any sound bite, graphically. Drummers, or anyone who needs the sound of drums, will also want to look closely at packages such as ToonTrack's EZ Drummer ($179 US, www.tooontrack.com), one of several packages currently available that manage to pull off convincing drum sounds right on the PC.

Free for all

Software doesn't have to cost you a thing. Freebies of all types are available 'Net-wide, though some are severely lacking in amenities or simply problematic. Fortunately, the Internet is also loaded with informative resources and forums. Cakewalk's site (www.cakewalk.com) is home to a particularly busy home studio forum, as is KVR Audio (www.kvraudio.com), and HomeRecording.com (www.homerecording.com). All will give you leads to software, hardware, and some of the tips and tricks you'll need in your new hobby. See you in the studio.

By Gord Goble

Cakewalk Sonar Studio 7

When No Office is the Ultimate Office

A globetrotting telecommuter's tale

As I sit here typing, at an outpost deep in the jungle, some 60 miles from the ancient Mayan ruins of Calakmul, I can't help but wonder how I ever lived without remote access technology. Margarita half consumed on the rattan table beside my similarly rough-hewn chair, I ponder just how far we have come technologically in such a short span and how dramatically our lives have been impacted socially as a result.

Scant years ago, this region in Mexico lacked for electricity, yet today my gracious host informs me that wireless Internet access is available from my cabin. This is indeed fortunate, as I had neglected to install an office suite on this laptop prior my departure and am composing this article using OpenOffice.org Writer, downloaded directly in advance of its creation. While the transfer speed wasn't exactly what I'd class as broadband, the relaxed pace of my environs precluded any sense of impatience and accounts for the current state of my Margarita.

Telephone and video conferencing, instant messaging, virtual private networking and of course, email have been the mainstays of my existence, working as I have over the past four years for a major Internet property based in Los Angeles—all from my home in Ottawa. Now that this former contract has come to a close, I have taken another in Montreal that, despite being for a core role in senior management, I am still able to pursue from my kitchen table the majority of the time.

My personal situation is certainly not unique. The business world has definitely come to realize the benefits of unconventional work arrangements, if slowly. More enlightened entrepreneurs understand that while face-to-face interaction is essential at times, most communication may be effectively undertaken electronically. The side benefit of this this is that there is less opportunity for misinterpretation, given these transactions are recorded digitally and can be recalled for review at any time. Additionally, they recognize that delivering on projects according to their deadlines is more important than the location or exact time of day they have been created, further giving flexibility to their authors. This not only leads to employees feeling empowered, but has been shown to actually produce a higher calibre of work.

Contrary to popular opinion, remote workers also generally put in more hours than their office-bound counterparts and indeed are often more conscientious about finishing incomplete tasks—despite the official end of the work day. They are less stressed, have a reduced impact on the environment, have more time with their families and are generally happier than those who must daily trudge into the corporate environment.

Today, there really is little reason to be tied to or by geography in order that we might undertake many of the vocations we find ourselves occupied with in the knowledge economy; yet, few fully embrace the freedom our robust communications infrastructure affords. True, often it is those for whom we labour and their old-fashioned mindsets surrounding line-of-sight supervision which prevent a more thorough utilization of this resource. However, frequently it is the workers themselves who are tied to traditional vocational paradigms.

Some would attribute this reluctance to outmoded habit or Luddite tendencies, and yet there are certainly many challenges and outright negatives that may arise from wholesale adoption of the remote employee model.

Morale is often the first casualty of widespread use of remote workers within an organisation. Without the daily informal interactions common in the office, a sense of belonging to the group is less well defined and both team cohesion and loyalty suffer. Communications can become more formal and attempts at humour may be misconstrued as the use of emoticons in business correspondence is not exactly considered professional in many circles.

One solution to this is to be found in communication technology itself: instant messaging. As a remote worker I have all but abandoned email for rapid correspondence and save it for documenting to-dos and so forth which have arisen from my team's utilisation of other forms of communication. Despite often being frowned upon as a huge time waster, even to the point of being banned from government departments and many corporations alike, instant messaging is among the most powerful productivity tools at our disposal. Unlike that email which you can ignore until later, IM demands immediate response and generally takes a much less formal tone—additionally enabling those incidental team building interactions to take place outside of the office walls. Then again, some people simply need a place to go every day to be with people they know and like... telecommuting is not for everyone.

For others, the challenges of off-site employment include inability to separate work and home life. Many seem reluctant to step away from their PCs and leave to tomorrow what may be accomplished today, potentially leading to stress at home from neglect of family. Related to this, employers may come to believe that you are available at all times, given your home, for you, is the office. They may also be less understanding of illness—figuring you are certainly still able to work from home ("hey, stay in your pyjamas if you have to!") and even come to expect you to always be putting in overtime, just because you may be a conscientious and hard worker.

These obstacles are however, seldom difficult to surmount. With a little self-discipline and the exhibition of some backbone when it comes to dealing with one's employer as relates to setting boundaries and expectations, you may come to realise all the benefits of both a fulfilling home and work life—without the 45 minute commute.

If you choose to extend the boundaries of your work-space even further, as I have over the past number of years, you may find your life taking many unexpected and rewarding turns... and should you find yourself typing away in a steamy jungle, secluded beach or bustling market, perhaps you'll find yourself agreeing with me:

The ultimate office? – is no office at all.

By Ray Richards

Zune Migrates North for the Spring

New Zune players soon to hit Canadian shores

Zune player family

Microsoft Canada was in Toronto recently showing off its Zune portable media players to Canadian media in preparation for their impending release here in the spring.

The soon to be launching (North of the 49th) Zune players are a follow-up to the company's first foray in to the media player hardware space; the original Zune was launched in November of 2006. The original device was a 30GB hard disk model. This update brings some variety to the product line. The 30GB Zune is no longer being manufactured and the product line now includes smaller flash storage players in 4GB and 8GB varieties. The hard drive iteration of the Zune will be available with an 80GB hard drive. The flash based Zune players have a 1.8 inch screen, weigh just under 50g and are available in pink, green, black and red and are currently available stateside following the October 2007 launch. The 80GB Zune weighs in at just over 125g and features a 3.2-inch screen and was launched at the same time.

All Zune versions play music and video in a variety of formats, display pictures, feature wireless syncing to PC and sharing between Zunes and incorporate a radio tuner. Users with a Media Center PC with Windows Vista Home Premium or Ultimate editions can sync their recorded programs to the Zune. Home movies and downloaded content in compatible file formats can also be synced to the device while incompatible files can apparently be converted easily.

When using any of the redesigned Zune players, Navigation is via a square-ish directional pad that has touch functionality. For refined control, users can click through menu entries. For quick scrolling through longer lists (as when viewing all tracks or albums), sliding a thumb down the touch pad sends menu entries flying across the screen at an according speed. While this option can be turned off, it's a surprisingly intuitive, quick and effective means of navigating long lists. The touch pad also offers more refined control and works equally well (judging by half hour we had the device in our hands) when making more exact selections across menu systems that, at first blush, feel well designed and are easy to navigate.

Zune's marketing buzz line / slogan of "welcome to the social" refers to WiFi (802.11 b/g) connectivity for optional sharing of status updates (i.e. what track a user is listening to at the time) and even songs between Zune players wirelessly. Transferred songs are automatically wrapped in a somewhat restrictive digital rights management (DRM) scheme that allows for three plays before the song becomes unavailable. This DRM scheme is automatically applied to any music sent to another Zune user wirelessly. Craig Tullett, Group Manager, Zune Canada says approximately 80 per cent of songs can be sent wirelessly; some companies' own DRM schemes don't allow for wireless sending.

In addition to the hardware redesign of the Zune, a suite of Zune applications and an online store will launch in Canada to complement the player.

The Zune Originals online store will allow users to purchase a Zune player directly and apply free customizations like personalized text and original artwork created specifically for the player. These designs are then laser etched onto the metal casing on the back of the device.

Zune Marketplace, is Microsoft's online store where users can purchase tracks with Microsoft Points (the same points Xbox 360 users are familiar with but packaged differently). Zune Pass, a monthly subscription service currently available in the US for US$14.99 that allows for unlimited access to the Zune Marketplace's current 3 million song libarary for as long as the subscription is active, launches alongside Zune Marketplace later in 2008.

By Andrew Moore-Crispin

Zune customizations

ZUNE 80

preview

The Greening of Technology?

Sustainable technology at CES 2008

When you're in the middle of one of the biggest technology shows on the planet, confronted by an enormous amount of consumer product with seemingly insatiable thirst for electricity (not to mention the enormous piles of paper used as sales tools for said products), it's hard to imagine that CES seems to be making an effort to become more "green." In the city of approximately eleventy billion lights, the message gets a little lost in the glare.

But greening is precisely what's starting to happen. Not only are there a growing number of companies who seem to be dedicated to reducing their impact on the environment through reduction of power consumption, reduction of emissions during the manufacturing process, there's also a greater focus on how to make consumer electronics more recyclable at the end of their lifespan along with exploration of alternative energy sources and other such initiatives.

While there was a Sustainable Technology pavilion dedicated to showcasing companies with such an interest, the pavilion itself was actually fairly small. Thankfully, there were other companies on the show floor who were trying to explain to the masses that they're trying to leave a lighter footprint on the planet... even if the portions of their booths dedicated to this particular aspect of their business strategy made up a very small fraction of the overall message.

Green tech or greenwashing?

The more cynical may consider these efforts to be little more than "greenwashing." In some cases, that may be true, but there are also cases where the companies are putting their money where their environmental PR mouthpiece is.

I recently had the opportunity to visit one of Sharp Electronics' LCD manufacturing plants, located in Kameyama, Japan. What's not so well-known in North America is that Sharp is also a major manufacturer of solar panels, which are quite popular in the Asian marketplace. But the company is also a fairly large consumer of its own panels—the roof and sides of its K2 manufacturing facility are covered with solar panels that greatly reduce the amount of energy it needs to pull from the grid in order to manufacture its Aquos televisions. The company also uses vegetable-based pigments for the colour of the monitor bezels, has phased out use of lead in soldering the electronics,

Horizon Fuel Cell H-Racer

and has a zero-wastewater policy to avoid polluting the local water source with waste heat or contaminants.

While the Sharp booth had a section dedicated to the explanation of the company's environmental initiatives, it was a fairly small portion... and there were none of the company's solar panel products on display. It may not be a huge surprise—after all, many North American consumers retain the long-held perception that solar panels are prohibitively expensive and not that efficient, despite gains made in both of those areas. Ultimately, why waste precious tradeshow booth space with a technology that people don't seem to want?

Mobile green and slaying the power vampire

One area where solar has taken off is in the mobility market, and there were a number of manufacturers showing off new versions of their products. Solio showed off its lineup of products designed to charge up mobile gadgets using a series of small solar panels. Voltaic Systems used its space in the Sustainable Technology pavilion to showcase its solar panel-adorned backpacks. And Iqua showed off its new 603 SUN, a Bluetooth headset with a tiny solar panel on the side that helps keep the battery charged up.

I also had the opportunity to see a new concept product from a company called Green Plug, based on a chip that allows multiple gadgets that use DC power of varying voltages to be charged simultaneously and intelligently. The vision is a world where there's no need for multiple products with multiple AC-to-DC power bricks just sitting there wasting power even after a gadget is fully charged. Eventually, Paul Panepinto, Senior Vice President of Sales and Marketing sees a world where DC power outlets appear on the wall right next to the standard AC power outlets.

While that technology may not start appearing until later in 2008 (or beyond), other companies are focusing on different ways to cut down on energy wasted on standby power.

Peripheral manufacturer Belkin has introduced the Conserve Surge Protector, a power bar that has a number of outlets that can be turned off using a remote-controlled wall-mountable power switch so users don't have to reach around behind the television to switch off a power bar. For example, you could plug your personal video recorder into one of the "always on" outlets, but the television, amplifier, and all other electronic equipment could be placed on the outlets controlled using a remote switch placed in a more convenient location.

Bits Ltd has taken this concept one step further by introducing the Smart Strip, a power bar that will automatically shut off outlets when they're no longer needed. How? One outlet on the power bar is designated a "control" outlet, and it's monitored for power draw. When it starts to draw power, it turns on the other outlets. When it stops drawing power, it switches off the outlets. So if you plugged your desktop computer into the control outlet, shutting it down would also shut down your monitor, printer, powered USB hub, and any other devices you plugged

into the specified "controlled" outlets. And for devices that always need to be on, like a PVR or a wireless networking router, the Smart Strip also features outlets that are always on.

Gas up with gas

For a while now, a number of people have been trumpeting hydrogen as the energy source of the future, using fuel cells that can convert the gas into power that can be used by electronics or automobiles. So far, hydrogen-powered automobiles have gotten very little traction due to the fact that the energy required to generate hydrogen is costly to produce and currently it's just more efficient to burn that energy in the automobile itself in the first place. Even while we're waiting for this particular equation to shift, Horizon Fuel Cell is busy showing the potential of hydrogen as a power source with a series of more modest products with a greater fun factor, like the H-racer, which comes with a fueling station that can convert water to hydrogen using a small solar panel. The company also used its booth in the Sustainable Technology pavilion to demonstrate the ability to create hydrogen from ethanol or a chemical powder canister that can be stored indefinitely until needed for emergency backup power.

The virtual press

It's also worth noting that CES istelf is becoming a greener show for the journalists covering the barrage of new products (whether eco-friendly or not). When I first started covering CES nearly a decade ago, it wasn't uncommon to head back to the hotel at the end of the day carting 50 pounds of paper filled with product information, along with a CD for the product images. While the paper press kit hasn't disappeared entirely, a growing number of companies are instead opting to place the press releases onto the CD itself, or to do away with the CD entirely and place all of that digital data onto a USB key that can be re-used for other tasks after the show is complete.

Even better, a growing number of companies are opting for the "virtual press kit" which features all relevant press releases and product images on the company's web site. The company Creative, for example, simply attaches a sticker with the website address and the login information to the back of business cards given out by members of the company's public relations team. And let me tell you (as someone who's done it both ways): bringing home a small stack of business cards is a whole lot easier than bringing home a hundred pounds of paper, plastic and aluminum... and it certainly makes the whole experience feel a lot more green.

By Sean Carruthers

DV or Not DV

Riding the HD wave online

Final Cut Pro 6

They are not really Web "streams" anymore. To abuse a metaphor, they're more like churning white water rapids bubbling with HD on the Web.

For much of its history, video on the World Wide Web meant one of three sometimes unsatisfactory choices. Not anymore. It's not just Real Player, Windows Media Player or QuickTime to deal with now. More companies (Adobe, On2, Digital Rapids, Sorenson, Telestream, Wirecast among several) are using more digital video file formats (Flash Video, MPEG-4/H.264, AVCHD, etc) and getting into the game of widescreen, high quality video streaming.

That means the average consumer (is there really such a thing anymore?) can more easily maintain HD quality from the camcorder to the end viewer's PC or media player. Really though, today's "average consumers" are in all likelihood, budding media production companies unto themselves.

It's not just user-generated content on YouTube, VideoEgg, JumpCut or other video sharing and social networking sites, it's a whole new wave of independent filmmakers and professional media producers.

The Web is the most inexpensive way to reach an audience with high quality video content.

Just one case in point is Pink (www.pinktheseries.com), the webisodic adventures of a murderous young assassin-for-hire (the name references not just her gender and age, but the hazy colour she leaves hovering around her workplace once she's done). Ten episodes of Pink were shot in six days, and more than two million have since been downloaded—enough to inspire production of a second round of episodes for webcasting a little later this year. The entire show was shot in digital video (actually the HDV format) using Canon XH-A1 and HV20 camcorders.

The shows were first made available on the Web as letterboxed standard definition QuickTime files. The producers are going to make available higher quality 720p HD Web versions (albeit likely with a small fee). Of course, DVDs (in standard 480, 720p or even higher quality 1080 formats) can also be made from the same digital video source material.

The seemingly bottomless black box that is today's digital video compression and transcoding toolkit means a range of options are available for HD (and other DV flavours) acquisition, production and delivery.

HDV

The format has been around for a few years, known as the first prosumer format to boast 1080 recording. HDV is generally captured at 1440x1080i and then extrapolated to 1920x1080. Regardless, many video editing and transcoding (recompression) software packages can work with native HDV. Final Cut Pro has a proprietary native HDV solution, while Adobe and Canopus both have native HDV capture and editing that conform to the HDV transport stream specs so that the files can be used on any HDV editing system (with the exception of Final Cut Pro) with no modification other than changing the file extension.

This format also works quite nicely with H.264 transcoding tools, as its MPEG 2 transport stream can be quickly manipulated by an H.264 transcoder or Sorenson Squeeze to create low bitrate versions of the files. Using a freely downloadable tool called MPEG Streamclip, you can split it into separate audio and video streams used by Adobe's Flash Encoder 2, FlixPro and other delivery tools.

AVCHD

AVCHD is a newer 1080i video flavour created by JVC and Sony. Its main advantages: higher compression (approximately 25% better than HDV) in

Shooting takes on a double meaning as the new Web show Pink, about fictional political assassins, is produced using high definition cameras and related digital video technology.

Canon XH A1

terms of recording bitrate (18 Mbps vs. HDV's 25 Mbps) and full 1920x1080i capture.

AVCHD is also now supported in Adobe's Premiere Pro via a third-party workaround and Apple's Final Cut Pro, iMovie 08 and Final Cut Express, although the latter two use an intermediate codec (AIC) that can introduce other issues. AVCHD uses H.264 as its primary video compression scheme, so it can be transferred to HD-DVD or Blu-ray discs, or streamed to Flash or QuickTime Players.

H.264

As you can no doubt see, H.264 is just about everywhere these days. Also known as MPEG-4, this advanced video coding scheme has continuously evolved since its first appearance almost ten years ago. It's been tweaked considerably (now in version, or Part, 10), and it manages to compress high definition video and AAC audio, along with other digital data (like rights management), into a very manageable file size.

There are several cameras out there now that capture full 1080i video on a disc or flash-based memory using a H.264 codec. For example, Hitachi's DZ-BD7HA, claiming to be the first camcorder to output video to the Blu-ray disc format. Capturing in the H.264 codec, Hitachi's version is true H.264

and, as a result, is incompatible with software that can read AVCHD, but it can be read by QuickTime and several other MPEG-based transcoding tools.

Sanyo's H.264 1080i camera, the Xacti HD1000 camcorder, captures full 1920x1080 (1080i) at 60 frames per second, using a newer CMOS sensor. Given the capture medium—SD or SD High Capacity (SDHC) card—the camera is also able to grab 4-megapixel stills simultaneously, although it's a bit of a sleight of hand as the camera is just tagging the appropriate video frame for later retrieval as a still.

Recorded video (as digital files) can be immediately dropped into a Flash or Windows Media encoding tool to compress for high-definition streaming.

FLV (Flash Video Format)

When Adobe Systems acquired Macromedia a couple of years back, it got access to the Flash (.swf) streaming media format. By incorporating a VP-6-type video codec from On2 with the H.264 specifications, the company has upped the ante for any potential competitors to FLV, the new Flash Video Format.

The new Flash Player 9 includes H.264 video—up to HD quality—capabilities, as well as playback support for existing MP4, M4A, MOV, MP4V, 3GP and 3G2 content.

On2's VP-6 codec is designed specifically to allow HD video playback in tough situations (that is, low powered CPUs or mobile devices), delivering

720p HD video playable on 1.7 GHz computers, and streaming HD at 1.6 Mbps.

The VP7.2 used in Skype video conferencing also delivers high quality, full screen video, and is capable of 720p HD video at 300kbps. At the same time, On2's Hantro encoder enables real time encoding of 720P HD video, with a stated intention of targeting mobile phones and handheld devices. As enhanced streaming codecs and HD delivery tools make their way to market,

everything from your home theatre to your cell phone will be capable of riding the high definition stream - uhh, wave.

By Lee Rickwood

It's not HD (not yet), but a new Windows-compatible media player is redefining widescreen TV. It can show up to eight videos simultaneously! Usually, only one video can be viewed at a time, but OctoMediaPlayer makes it possible to compare videos, to search multiple videos quickly or to create a whole new approach to making music. OctoMediaPlayer is available from Arcsoft, a Canadian developer based in Richmond Hill, ON.

Canon HV20

You Say You Want a Revolution

Processor and chipset developments at CES 2008

At this year's Consumer Electronics Show, PC hardware manufacturers were showing off products more evolutionary than revolutionary. This isn't necessarily a bad thing as some of the evolutionary products are sizeable steps forward. Many of the announcements were expected however. Regardless, there was plenty on hand to see and, well, 2008 is far from over...
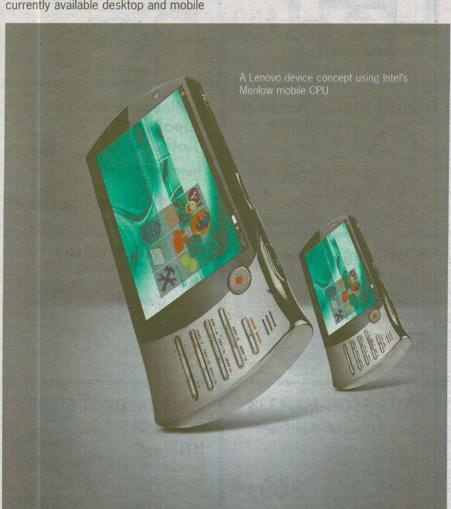
Intel's 45nm Bonanza

Intel continues its domination of the central processing unit (CPU) field by announcing a whopping 16 new processors, all manufactured using a 45nm fabrication process. Clockspeeds of the new processors range from 2.1GHz to almost 3.2GHz with the majority having a bus speed of 1333MHz. L2 cache sizes are also diverse, starting as low as 3MB for the mobile CPUs and going up to 12MB on Xeon and Core 2 Quads. While the clockspeeds remain largely the same as the Core line of CPUs, the inclusion of new technology like HD Media Boost (also known as SSE4) and the substantial increase in cache should be enough to offer a noticeable performance improvement over currently available desktop and mobile CPUs. We can expect to see all of these new processors on store shelves within the first quarter of 2008 with a MSRP as low as $163 at the entry level.

Not to be outdone, Intel's mobile division briefly mentioned the soon to be released Menlow mobile platform utilizing upcoming mobile CPU codenamed "Silverthrone." Intel expects the platform to use as much as ten times less power than currently available Centrino solutions and should be available by the end of Q2.

Much to the delight of hardcore PC gamers, Intel was also showing off their SkullTrail enthusiast platform with demonstration systems on the show floor. SkullTrail is a dual CPU, dual graphics card capable solution geared towards those who appreciate speed for the sake of speed (and have really deep pockets.) The systems on hand had two Core 2 Extreme X9775 processors running at a staggering 4GHz each! That's EIGHT cores running at 4GHz a piece, giving a combined total of 32GHz. If that wasn't enough, the Alienware-built system utilized two GeForce 8800 Ultras running in SLI and was entirely watercooled.

An LG device concept using Intel's Menlow mobile CPU

A Lenovo device concept using Intel's Menlow mobile CPU

DS2's Powerline Networking

DS2 is a global leader in powerline communication chipsets and the company used CES as an opportunity to showcase their complete range of already available and upcoming powerline-based network adapters. Offering powerline solutions that can keep up with the most demanding requirements (even HD video streaming), while maintaining interoperability with different networks was DS2's focus this year. Not only were they demonstrating solutions at various price points and performance levels but also products with robust interoperability with existing home networks. Also on hand was DS2's upcoming next-generation technology that runs at an impressive 400Mbps, double that of their currently available high-end Aitana series powerline network adapters and faster than 802.11n in most cases.

Being a designer of powerline communications silicon, DS2 doesn't actually sell products to consumers. This actually led to their biggest surprise; the list of manufacturers using DS2 technology. Not only was it long, but it included such household network heavy hitters as D-Link and Netgear. With their 400Mbps offering around the corner, it may only be a matter of time before powerline networks are the norm.

AMD/ATI's Double-Double

While AMD had a general lack of CPU announcements at CES, their graphics division had quite a few surprises. The most important of which is that they're bringing the Radeon 3x00 line of GPUs to the mobile space. Oddly enough, the differences between the currently available high-end Radeon Mobility Chips and the new HD 3400 and 3600 are seemingly insignificant on paper—they have the same memory interface and number of streaming processes as the 2400/2600 and the difference in clockspeeds is negligible. In fact, the biggest improvement with the new chips is the slight die shrink, from 65nm to 55nm, which will reduce power consumption which is incredibly important in mobile components.

Far more bizarre was the announcement that the Radeon 3x00 series is also going to be migrating to the almost deserted AGP interface. Sure they will be the fastest AGP solutions available, but most people still running an AGP-based system probably aren't in the market for a high-end graphics card. Even if some are in need, much of the prowess of the 3x00 series will be wasted due to the limitations of the AGP bus.

Easily the coolest item on hand was the 3870 X2 desktop graphics hardware; not because we weren't expecting it but because it was actually up and running. With all the talk surrounding SLI and Crossfire configurations (two graphics cards running in tandem in the same system), ATI decided to keep with tradition and release a Crossfire-enabled graphics solution but one that only uses one PCIe slot. That's right, the 3870 X2 will have two 3870 GPUs on one PCB, potentially doubling the performance. And if you're rolling in it, you may want to invest in two X2's for a total of four 3870 GPUs in one system. Awesome!

NVidia's Phenom Affair

NVidia's focal point this year was on their upcoming AMD-only 700a series motherboard chipsets. With the Intel-only 780i chipset launched prior to CES in December 2007, it's no surprise that the 700a series was nVidia's biggest announcement. The three chipsets being discussed on the show floor—the 780a, 750a, and 730a—are all based on AMD's current AM2+ socket. As such, they all support AMD's Phenom quadcore CPUs, but only the 780a and 750a have support for nVidia's SLI multiple graphics card protocol with the 780a being able to power up to three cards.
In addition to the 700a series announcement, nVidia also introduced the 8200 integrated GPU which is to be used in 700-based systems. While the 8200 supports DirectX10, the chances of it running DX10 based software well are, obviously, next to none as integrated GPUs are notoriously underpowered and borrow from system RAM. That said, the 8200 does support nVidia's PureVideo HD technology finally making smooth HD video playback on an integrated graphics solution a possibility.

Universal Serial Bus Times Three

The last interesting PC technology appearance at CES 2008 was the much anticipated USB3.0. The biggest difference with 3.0 is the giant leap in speed; going from 480Mbits/s (USB2.0) to a monstrous 4.8Gbits/s.
For reference's sake, most hard drives have a hard enough time sustaining 300Mbits/s… So, USB3.0 is 16 times faster. With other features, like power off when not in use and being completely backwards compatible with previous USB standards and revisions, it's not a complete loss if HDDs aren't fast enough to access USB3.0 devices with any noticeable speed improvements. Fortunately or unfortunately, depending which camp you fall in to, it's still a couple of years away so HDD manufacturers have some time to enhance their read/write speeds (either that or solid state hard drives will become that much more tempting.)

Conclusion

Although not massive or life changing, many of the PC-centric announcements made at CES 2008 were welcome ones. Evolutionary as opposed to revolutionary. ATI and nVidia announced nothing to stave off the staleness of their current line of graphics products (which have been simple hardware refreshes for the better part of a year.) Despite the lack of incredibly new graphics hardware, hardcore enthusiasts will definitely get a kick out of the Intel's massively multi-core, almost too excessive, SkullTrail platform. If anything, Intel's stranglehold on the CPU market is only made more apparent by AMD's lack of new technologies and not even nVidia's freshly baked 700a series chipset can help them in the absence of new Phenom CPUs. Like every year before this one though, it will be interesting to see how the rest of 2008 pans out in light of what we saw at the start of the year at CES.

By Mike Palermo

Ultraportable Powerhouse

Part 3: Esoteric but entertaining

The last of our Ultraportable Powerhouse series, we take a look at creating a virtual Mac Classic environment on our Windows PC.

Opening the floodgates

While many software manufacturers do all within their power to ensure that end users only utilize their software the way said manufacturer intends, others have opened up the gates, allowing for free downloading of operating systems and software packages, but only for very old versions of their wares. I'm referring here to Apple (formerly Apple Computer Inc.) who have made much of their past library available online at www.info.apple.com/support/oldersoftwarelist.html.

So, if you want to download old Newton software (perhaps some handwriting recognition software to clear up those "beat up Martin / eat up Martha" scheduling conflicts of Simpsons lore?) or a version of Mac OS from the early days just for the warm,

fuzzy feeling, you're covered. What's available is essentially software that Apple has chosen to release in to the public domain. In truth, you're not going to get much in the way of usable system software from the online archive. What you will get though is a trip down memory lane.

What use is it?

In a word, little. Any value you find in using a USB version of Mac Classic will be purely nostalgic. That said, if you find yourself easily distracted by the overkill of modern word processors for simple text documents or by the siren song of the Net, perhaps you'll find some use for the bare bones Mac Classic word processor and the fiendish difficulty of getting an old Mac online... to say nothing of an old emulated Mac environment. That novel that's been held up indefinitely by too much Web surfing may yet be delivered. Then again, maybe not. Mac Classic has games, you see. Also, we wish you the

best of luck in finding a way to get your opus transferred from the virtual Mac to somewhere—anywhere—else.

Give it the boot?

Your Mac Classic environment will sadly, not be bootable at startup. It will run from your USB key on just about any machine you may have access to but you can't take over. Also, it will run windowed as the original resolution of the 9-inch screen all-in-one Macintosh Classics was 512x342.

Getting start-upped
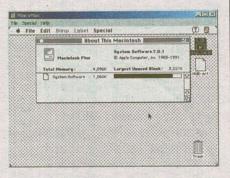
First, you'll need to download Mini vMac, a Macintosh Plus emulator designed by Paul C. Pratt, available from minivmac.sourceforge.net. You'll also need a ROM image file for the Macintosh system software of your choice. Seeing antique Mactivist Marc Rolli keeps an archive of pre-6.0.8 ROMS at rolli.ch/MacPlus/. Some later System software can be downloaded from the Apple archves
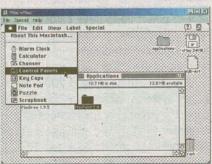
Once you've assembled all the required files, a quick visit to www.nothickmanuals.info/doku.php/mini vmac. With a little trial and error—admittedly more error than trial—we managed to boot in to our Macintosh Classic running System Software 7.0.1 by dragging the obscurely titled "hfs24M.DSK" virtual disk image on to the Mini vMac icon. Other users have reported needing access to a friend's Mac (or a friend willing to decompress and email files) in order to pull all the required pieces together. There are also versions of Mini vMac that run under Linux and, of course, Macintosh. In addition, there are some interesting, unofficial ports of Mini vMac that run on Solaris, Windows XP x64 and even Pocket PC and the Nintendo DS.
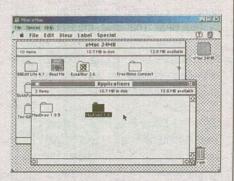
The best reasonably step-by-step tutorial I found was hosted at No Thick Manuals, at the URL provided previously. While not difficult per se, it's not simple to get your emulated Mac up and running. Following the tutorial and doing your own searches if you get stuck though, it'll work eventually.
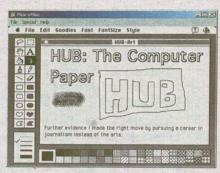
Final thoughts

After the initial frustrations of not being able to get the thing to work as expected, downloading and re-downloading files, reading tutorials, message boards and so on trying to find some answers, hearing that iconic Macintosh Classic start up sound come from the PC speakers was music to the

ears. A real sense of accomplishment, albeit an accomplishment that has no truly practical application.

The first half of this story was typed out in TexEdit 2.7.2, before I gave a thought to exactly how I might get the finished copy off of the emulated Mac. Turns out, the quickest and easiest solution was to re-type it. See, getting files off of the emulated Mac is no mean feat. Especially given that it's got no Net access. I messed around with the Chooser settings for long enough to realize that it was going to be a lot easier just to re-type the document.

As a trip down memory lane, the virtual Mac Classic environment is a fine vehicle. As a (usable) computer though, it's best left burried.

By Andrew Moore-Crispin

Surfing the wireless wave

In the Lab: Wireless data cards

Casting your memory back, it's really not that long ago since the days when mobile computing meant carrying a very heavy laptop complete with an on-board 33.6 Kbps modem. Connecting on the road meant getting a hotel, plugging in to the phone line (hope you remembered your printed list of local numbers for your ISP) and sending an email as quickly as possible while the timer ticked on your $1/minute local call. There were ways to connect without physically plugging in but these required expensive equipment and the per minute connection charges were astronomical.

Fast forward ten years and wireless aircards that allow users to connect just about anywhere are available from all the major carriers; no plugs and no searching for a WiFi hotspot.

These cards plug in to an available USB port, an ExpressCard or PCMCIA slot (depending on the solution you choose and the connection options available on your laptop) and use the wireless cellular networks to give near broadband speeds.

A few caveats: The fastest speeds will not always be available. Also, while the convenience of a plug and surf connection is hard to argue, the expense may be difficult to justify. Low demand data plans can be had for under $20 but in some cases, offer a paltry 3MB of data transfer with additional data billed at $10/MB. 500MB and 1GB plans can be had at prices that range widely between major Canadian carriers. Rogers for example has a 1GB/mo plan for $65, Telus offers a 1GB/mo. plan for $100 and Bell offers a $75/mo. unlimited plan. There are, of course, other factors to be considered when picking a plan and the lowest price doesn't necessarily equate to the best deal. Personal usage must be considered. If you travel in to the United States or beyond on business for example, roaming charges are going to be a key factor.

Available connection speeds, activation fees, contract terms and other factors also play in to the decision.

Testing methodology

We asked major Canadian carriers to lend us a PCMCIA format aircard. We evaluated the ease or otherwise of the installation process from the moment the package was opened and the CD-ROM placed in the drive tray to the moment we first connected to a live network. Consider that wireless aircards count ease of use high among their selling points. Not everyone wants to fiddle with Bluetooth settings and troubleshoot a tethered or wireless smartphone and laptop connection. Aircards should provide a very simple means of getting connected. For end users, the initial setup should be simple and once complete, connecting to the network should be essentially plug-and-play. What business users are looking for (and paying for) is a simple and reliable means of connecting while on the road, on a train or literally just about anywhere. Often, these users will need to access secure corporate networks; all cards tested can work with a virtual private network (VPN).

We tested connection speeds in downtown Toronto which admittedly, given wireless coverage concentration in major city centres, is something of a best-case scenario. We used connection speed testing utilities at www.speedtest.net,

www.bandwidthplace.com and CNET's Bandwidth Meter speed test (tinyurl.com/2sunb) to list results. The CNET bandwidth test, despite using servers in the US, seems to give the most realistic and constant transfer speeds that more accurately represent the real world download speeds. Other tests varied too widely in their results.

Each of the three tests was completed in succession and each of the cards speed readings taken within 5 minutes of each other to limit the impact of variables like network traffic volume across the aircards and service providers. We tested the cards at different times throughout the day. We re-ran the speed tests over the weekend. All data is provided, along with an average speed across all services and testing times.

Option Wireless GT Max

Service provider: Rogers   www.rogers.ca
Advertised connection speed: 3.6 Mbps
Device cost: $49.99 - $299.99
(three year - one year term)
Service cost: $25 - $65 (3MB/mo. - 1GB/mo.)

The Globetrotter GT Max is the smallest of all the cards tested. Its antenna module is spring loaded; users push it in to release and it pops out about 2cm

and the upper and lower portions of the antenna fan out. When pushing the antenna in, the two sides pinch together and sit inside the card. While this helps to keep the size of the card way down, we can't help but wonder how durable the antenna latch is going to be in the long run.

With the antenna closed, the card sticks out less than 1cm from the LifeBook P7320 chassis and can realistically be kept in the notebook at all times as a result. A connection LED to the left of the pop-out antenna flashes purple, red and blue to indicate the card's status and the type of connection (Red for GSM/GPRS/EDGE and Blue for HSDPA) for quick glance status updates.

On the underside of the card is a slot for the Rogers SIM card that is very easy to remove and insert, making the card a realistic accompaniment to your regular Rogers cell phone SIM and a hearty data plan.

Rogers uses the software that comes bundled with GT Max card rather than reinventing the wheel. There is no Rogers customization of the software—not even a logo to be found—but that's probably a good thing all things considered; the GlobeTrotter Connect software works well and presented no issues.

Option Wireless GT Max

Time of connection	www.speedtest.net	www.bandwidthplace.com	CNET Bandwidth Meter
Weekday, 10:30am	Down: 2644 kbps Up: 340 kbps Ping: 319 ms	Down: 1.2 Mbps Up: 146.21 kbps 13.98 seconds	648.8 kbps
Weekday, 2:00pm	Down: 2494 kbps Up: 336 kbps Ping: 309 ms	Down: 901.11 kbps Up: 110 kbps 18.582 seconds	955.3 kbps
Weekday, 11:00pm	Down: 1078 kbps Up: 329 kbps 284 ms	Down: 1.31 Mbps Up: 160.09 kbps 12.768 seconds	679.5 kbps
Weekend, 12:00pm	Down: 2580 kbps Up: 329 kbps Ping: 318 ms	Down: 1.65 Mbps Up: 201.4 kbps 10.149 seconds	670 kbps

Novatel P720

Time of connection	www.speedtest.net	www.bandwidthplace.com	CNET Bandwidth Meter
Weekday, 10:30am	Down: 205 kbps Up: 44 kbps Ping: 262 ms	Down: 211.49 kbps Up: 25.82 kbps 79.174 seconds	184.9 kbps
Weekday, 2:00pm	Down: 312 kbps Up: 32 kbps Ping: 256 ms	Down: 261.34 kbps Up: 31.9kbps kbps 64.072 seconds	231.2 kbps
Weekday, 11:00pm	Down: 1078 kbps Up: 329 kbps 284 ms	Down: 264.52 kbps Up: 33.2 kbps 61.062 seconds	225.9 kbps
Weekend, 12:00pm	Down: 513 kbps Up: 61 kbps Ping: 245 ms	Down: 299.9 kbps Up: 36.61 kbps 55.834 seconds	314 kbps

Novatel P720
Service provider: Bell Mobility   www.bell.ca
Advertised connection speed: 3.1 Mbps
Device cost: $99.95 - $299.95 (3-year - monthly term)
Service cost: $25 - $75 (4MB/mo. - unlimited data plan)

We faced some initial problems in getting the Novatel P720 to be recognized and usable by our Fujitsu LifeBook P7320 ultraportable loaner testing machine. All the issues seem to stem from the fact that the ultraportable runs Windows Vista (Business) and the Bell Connect software has apparently not been fully migrated. Downloading card manufacturer Novatel's MobiLink software fixed the connection problems but the connection speed was strangely slow. At first, we were getting < 150 kbps connection speeds and pings in excess of 1000 ms as the card only seemed to want to connect to the "Bell Core Network" as opposed to the high speed network. Even when this problem was remedied, we were hard pressed to get >300 kbps. This seems to be either the result of weekday network congestion or some unspoken network problem as further testing leading up to deadline brought the speeds closer but without sufficient time to gather and include the results.

After set-up is completed however, Bell Mobile Connect does an excellent job of managing your connections including Bell's Wireless Hotspot connections, cellular data and WiFi connections. After connecting to a network for the first time, it offers to configure actions (essentially scripts) that will take place when the connection is made. It asks for VPN (virtual private networking) information to secure your connection and can be easily configured to launch a program (i.e. a Web browser, email or specific corporate application) upon successfully connecting.

The card itself has a fairly large profile with the antenna component sticking out about 4cm from the PCMCIA slot of our otherwise diminutive test machine.

Sierra Wireless AirCard 595
Service provider: Telus   www.telus.ca
Advertised connection speed: 3.1 Mbps
Device cost: $49.99 - $299.99 (three year - monthly term)
Service cost: $5 - $100 (pay per use fee plus $15/MB - unlimited)

The Sierra Wireless AirCard 595 from Telus is the biggest of the bunch with a 3.5cm enclosed antenna array and a card format that hangs a full 4.5 cm beyond the PCMCIA slot and the laptop chassis. It comes with a hard translucent case that makes transporting it in your laptop bag easier and safer; a small touch that's surprisingly missing from the other cards tested. All the aircards in the Lab this month come in a DVD format case that's approximately three times as deep. This case carries the instructions and driver / software install CD and given the size, it probably won't be stowing away when you're on the road. Including a form-fitting case for the PCMCIA

format cards makes sense logical.

The Sierra Wireless AirCard 595 is by far the simplest to use with the most basic settings; the software that ships with the device offers the customization and flexibility that the others do but doesn't bother you with them up front. After the simple and easy to follow set-up process, all users have to do is plug in the card and the connection manger takes over, finding the highest speed Telus network available and associating itself. From plug-in to surfing is a matter of no more than 15 seconds. In other words, the simplicity and reliability that a business user more concerned with results than with do-it-yourself solutions is looking for.

Telus' VPN access package adds another $5/mo. to the service contract.

Conclusion
Using these wireless aircards for a little while, I was surprised at how useful they can be. In the always-on world and the anywhere office, having an aircard not only frees users from their desk, it frees them from having to go to a certain coffee shop, restaurant or other such place to find a wireless hotspot. In your home city, you probably have a mental map already of your own hotspot hot spots. On the road though, having a reliable and always ready to go wireless Internet solution can prove invaluable.

That said, in Canada wireless data plans are still prohibitively expensive. Until wireless data prices fall to more reasonable levels (say a $40 unlimited plan?), a wireless aircard and the service plan required to use it is either an fairly expensive luxury, a corporate expense and perhaps a necessity for mobile professionals.

By Andrew Moore-Crispin

kbps: kilobits per second - Standard bandwidth speed measurement for commuincations One kilobit is 1,000 bits.

Mbps: mega bits per second. Communication standard, one megabit = 1,000 kilobits or 1 million bits

To convert communications standard in to storage standard (i.e. to find out the data transfer rate in KB/sec) (1 kilobit = 0.125 kilobytes):

Speed in kbps x 0.125 = Speed in KB/s
1,000 kbps x 0.125= 125 KB/s
and 1 Mbps = 1,000 kbps so 1 Mbps = 125 KB/s

Sierra Wireless AirCard 595

Time of connection	www.speedtest.net	www.bandwidthplace.com	CNET Bandwidth Meter
Weekday, 10:30am	Down: 1941 kbps Up: 415 kbps Ping: 221 ms	Down: 1.17 Mbps Up: 142.69 kbps 14.325 seconds	653.8 kbps
Weekday, 2:00pm	Down: 2444 kbps Up: 471 kbps Ping: 185 ms	Down: 362.33 kbps Up: 44.23 kbps 46.213seconds	858.4 kbps
Weekday, 11:00pm	Down: 1588 kbps Up: 467 kbps 224 ms	Down: 864.68 kbps Up: 105.55 kbps 19.365 seconds	643.5 kbps
Weekend, 12:00pm	Down: 2073 kbps Up: 498 kbps Ping: 197 ms	Down: 978.46 kbps Up: 119.44 kbps 17.113 seconds	762.5 kbps

Big Sound, Small Package

Doing away with dot-one

For the fullest non-surround sound experience possible, you need to look at 2.1 speaker sets, right? That is, two speakers and a subwoofer sitting under your desk offering the spine rattling bass you seek.

Creative has done an excellent job of getting rid of the bulky, floor-shaking subwoofer without dropping the low end of the sound spectrum though with its GigaWorks T20 2.0 speaker set.

While some of the deep bass understandably disappears when the .1 is dropped from the equation—especially at lower volumes—a bass channeling sound tunnel called "BasXPort" does a surprisingly efficient job of bringing the low end to life without sacrificing the high end.

Also, where 2.1 speaker sets that rival the T20's about $100 price tag rely on floor shaking but low fidelity bass to deliver the feeling but neglect or abandon the nuance of the low end of the sound spectrum, Creative's set does an excellent job across the range. They deliver a full, rich sound to the desktop PC on both the high and low end of the sound spectrum, rivaling a two-speaker hi-fi set up for clarity and fullness of sound.
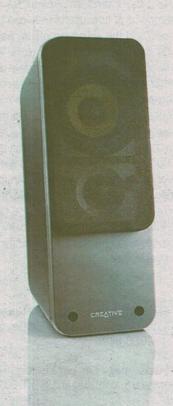
The speaker set offers 28 Watts of RMS power and maintains excellent fidelity even at high volume. Make that especially at high volume; at more sedate desktop listening volume, the T20s bass feel gets a bit lost. This is about the only place a dedicated subwoofer would help matters as subs can separate bass even at low volumes. The speakers are most at home when being cranked as the sonic range opens up wide and music or game elements are clearly separated while still remaining part of a greater whole.

Perhaps as important these days as the once lowly PC is dressed up and flashy widescreen monitors replace aging CRTs in the PCs ever advancing creep from the basement or utility room to the main floor of your home, the set looks very nice too. The speaker cases are a metallic slate that would be well at home with just about any PC setup. Removing the black speaker grilles reveals a yellow woven glass fiber cone and cloth dome tweeter. Combined with a bright blue power LED and matte metal adjustment knobs on the face of the right speaker, it's quite a striking look.

The set would also be at home alongside a smaller LCD TV and ship with an adapter for channeling audio from an RCA source with the included adapters. The killer app here is definitely on the desktop though.

By Andrew Moore-Crispin

HUB: The Computer Paper's Editor's Choice award is awarded to a top performing product that HUB: The Computer Paper Editors and Contributing Editors have experienced first hand. With the HUB: The Computer Paper's Editor's Choice seal, readers can be assured a product stands well above others in its category and class and raises the expectation level for competetive products.

Creating a clear sound spectrum from a relatively small and attractive package and for flouting conventional wisdom, doing away with the .1 subwoofer part of the desktop sound equation, Creative GigaWorks T20 speakers are an excellent bet for desktop PC users. Their sonic range is broad and music, movies and game sounds are reproduced clear, warm and true to their source. As the speakers are cranked, they show their true ability and introduce no distortion, even as the volume knob approaches and reaches 10.

Anitec
One Step Ahead

FEBRUARY 2008

SIMPLY THE BEST VALUE QUAD-CORE PC

SPECIFICATIONS:

- Intel Core 2 Quad Q6600
- 2GB Dual Channel DDR2 Memory
- 500GB SATA II Hard Drive
- 18x Double/Dual-Layer DVD-Writer
- nVidia GeForce 8400GS 256MB DirectX 10 Video Card
- 2 Channel High-Defination Audio
- High Speed Gigabit Ethernet Adapter
- Microsoft Keyboard and Optical Mouse
- Microsoft Windows Vista Home Premium Edition
- 1-Year Parts and Labour Warranty

Windows Vista | *NVIDIA GeForce* | *intel Core 2 Quad inside*

only **$699.95**

ACT PROMA PI-200SE SYSTEM

ASUS EEE PC 2G SURF (ASSORTED COLOURS)
Specifications:
- Intel Celeron-M Processor
- 512MB System Memory
- 2GB Flash Storage
- 7" (800x480) LCD Display
- Wireless 802.11 B/G
- 4-Cell 4400mAh Battery
- Linux Bassed Operating System

$299.95

ASUS F3SV-A2 CENTRINO DUO
Specifications:
- Intel Core 2 Duo T7300 2.0 GHz
- 1GB DDR2-667 Memory
- 160GB Hard Drive
- GeForce 8600M 256MB
- 15.4" WXGA LCD Display
- Wireless 802.11 B/G
- Microsoft Windows Vista Prem.

SKU# 10243
$1,199.95

ACER ASPIRE 5720-6683
Specifications:
- Intel Core 2 Duo T5250 1.5 GHz
- 1GB DDR2-667 Memory
- 120GB Hard Drive
- Super-Multi DVD Writer
- 15.4" WXGA LCD Display
- Wireless 802.11 A/B/G
- Microsoft Windows Vista Prem.

SKU# 9602
$959.95

INTEL CORE 2 DUO E8400 (3.0 GHZ)
- 1333MHz FSB, 45nm
- 6MB L2 Smart Cache

NEW SKU# 10244
$219.95

SCYTHE NINJA COPPER (LIMITED EDITION)
- All Copper Design
- Supports Socket: AM2, 939, 754, LGA775

NEW SKU# 10222
$69.95

BELKIN WIRELESS N DRAFT 2.0 ROUTER
- 4-Port 10/100 Switch
- Backwards compatible with 802.11 B & G

SKU# 10191
$65.95

ASUS P527 PDA CELL PHONE
- Quad-Band, Unlocked
- Built-in: GPS, BlueTooth, Wi-Fi, 2MP Camera

NEW SKU# 10152
$575.95

SEAGATE BARRACUDA 7200.11 500GB
- 32MB Memory Buffer
- 7,200 RPM, SATA 3Gb/s

SKU# 9964
$115.95

AMD PHENOM 9600 BLACK EDITION
- True Quad-Core Design
- 2.3GHz, 4MB Cache

NEW SKU# 10162
$259.95

CHAINTECH GEFORCE 8800GT 512MB
- 600MHz Core Clock
- 1.8GHz Memory Clock

SKU# 10022
$249.95

BENQ FP202W V3 20.1" WIDESCREEN LCD
- Glossy Screen
- 5ms, 1000:1 Contrast, DVI & VGA Inputs

SKU# 10241
$219.95

VIEWSONIC VA1903WB 19" WIDES LCD
- 1440 x 900
- 5ms, 700:1 Contrast, VGA Input

SKU# 9240
$179.95

DREAM CHEEKY USB FRIDGE
- Cools a single canned beverage from 5V USB power.

NEW SKU# 10218
$39.95

MICROSOFT SIDEWINDER GAMING MOUSE
- Adjustable weights
- LCD Display on Mouse

SKU# 10121
$49.95

ZOTAC GEFORCE 8600GT 512MB
- 500MHz GPU / 1GHz RAM
- DVI to HDMI Adapter included

SKU# 9847
$109.95

VISIT US ONLINE 24/7 AT WWW.ANITEC.CA FOR MORE GREAT SELECTIONS! WE SHIP ALL ACCROSS CANADA!

Store Hours:
Monday to Saturday:
10:00 am to 6:00 pm
Closed Sunday's and Holidays

2185 Kingsway
Vancouver, BC, V5N 2T4
Tel: 1.888.ANITEC.9
E-mail: sales@anitec.ca

Canadian Tire | KFC
Kingsway St.
Blockbuster Video | WE ARE HERE | McDonald's
Victoria Dr.

CES 2008 in Three Days

The quintessential tech trade show distilled

CES day one: TV talk and Gates' goodbye

It's the night before CES, and the buzz amongst the congregation of more than 130,000 geeks haunting the Las Vegas Convention Center and surrounding hotels is mostly about televisions.

Pioneer has a wafer thin 9mm plasma lurking around here somewhere, Sharp is hyping several similarly anorexic LCDs, Samsung is talking up IPTV, LG is shilling wireless 1080p video streaming over 802.11n, and Panasonic is preparing to unveil its 150-inch screen—nearly 50 inches larger than its current record-holding set (it adds the equivalent real estate of five additional 50-inch panels).

On the PC front, Hitachi and Samsung will be duking it out on the half-terabyte laptop hard drive front tomorrow, with the former unveiling a non-standard sized 500 MB dual platter drive and the latter coming out with a single-disk solution that ought to fit many existing machines.

Samsung is apparently also going to be pulling a 128 GB solid state drive from out its magical storage hat, doubling the size of the company's current 64 GB model, and bringing the dream of faster, more reliable, and slimmer storage a bit closer to computer nerds everywhere (though don't expect to see these exotic and extravagant devices in mainstream machines before the end of the decade).

The day ended anticlimactically with Bill Gates' final CES keynote speech (he's stepping down from leading the world's largest software company this July). Without any major new products to talk about, he simply rehashed many of his organization's existing projects and fed us some numbers about Vista (it recently hit the 100 million user mark) and Xbox 360 (software for Microsoft's console apparently outsold the number of games moved for the Wii and PlayStation 3 combined over the holidays) before quietly ending his presentation with a look at some far-out (and potentially far-off) visual recognition software being developed for mobile handsets that can allegedly recognize people and buildings, among other things (it identified Gates' cohort Robbie Bach in seconds—and let us know he owes Bill $20 for a lost Guitar Hero 2 wager).

Kind of a disappointing final bow for one of the world's most famous geeks, and a bit of a downer to close the day. Hopefully tomorrow—the show's first

official day—will get off to a more stirring start as I see what many of the world's biggest PC vendors have up their sleeves for 2008.

CES day two: A solid gold desktop, a solid state ultraportable, and Wireless 1080p

My second day at CES began at HP's pavilion, and once I was able to take my stunned gaze off the priceless 24-karat gold Voodoo Omen luxury desktop slowly spinning round behind a big glass case, I moseyed over to more earthly gadgets, like HP's MediaSmart Receiver. It's a clever little gizmo meant to turn any television into a fully connected multimedia powerhouse, wirelessly draw pictures, music, and video off local PCs a la HP's own MediaSmart LCDs, and act as an extender for any Windows Media Center machines in the house. Fun stuff, and a nice alternative for non-Xbox 360 owners interested in a bit of the ol' WMC extension.

I popped by Dell's booth next, where I found the 22-inch Crystal LCD, which won a CES 2008 Innovations award prior to the show. This beautiful and quick panel (it's got a two millisecond response time) has a large, clear bezel into which four small speakers are discreetly planted. Complete with tempered glass and HDMI inputs, it's an amazing (and undeniably gorgeous) little monitor.

Also at the Dell booth was the company's next gaming desktop, the XPS 630 (another CEDS Innovations award winner). It's an eye pleasing and surprisingly small box, the feature set and hardware specs of which I was told will remain unknown to press and public for at least several weeks. However, it was running an impressive looking and previously unseen PC game called Legendary (developed by Spark and slated for summer 2008 release) in perfectly smooth and non-stuttery fashion. We'll be keeping our eyes on this powerhouse in the months to come.

Next up was Belkin's exhibit. Among the dozens of diverse and interesting gizmos on display here was the $25 RockStar, a four port headset hub for multiple music players that allows users to jack in not one but two MP3 playback devices and mix the music being played by both. Alas, it offers no controls for song speed, which makes beat mixing all but impossible. Still, a fun and inexpensive gadget for music fans to experiment with.

Even more impressive at Belkin's booth was the FlyWire, a wireless box that can stream uncompressed 1080p video (via ultra wideband technology) to a receiver connected to any standard television. Just place the FlyWire in an out of the way spot (up to 100 feet away), jack in your game consoles and movie players, and enjoy an almost cable-less living space.

I also snagged a glimpse of: Toshiba's Qosmio G45, the first PC with an HD DVD rewriteable drive; Samsung's solid state drive driven Q1Ultra ultraportable PC (another CES Innovations award-winner, it turns out); and Microsoft's Surface tabletop touch screen computer (its practical home applications are still largely unknown, but it wins points for being one of the most futuristic bits of gadgetry at this year's show).

CES Day 3: LCD shades and DLP projector robots

My final day at CES 2008 began in the South Hall lobby of the Las Vegas Convention Center, where MicroOptical's myvu personal media viewers were causing some hubbub. These weird looking, ultramodern specs do double duty as shades and tiny video displays, offering up surprisingly clear and colourful VGA images mere centimeters from the wearer's eyes. They can be connected to virtually anything that puts out a picture, from game consoles (I saw someone wearing the glasses playing Wii) to DVD players. It's a decidedly odd and futuristic experience, but also a surprisingly affordable one: They range in price from $199 to $299. Apparently a new 3D video edition will be available in the spring.

Heading into the show proper, I stopped first at SanDisk's pavilion where I found the Titanium Plus USB key, which has been turning attendee heads due to its online backup and recovery features. Every time you jack the flash drive into a PC it automatically and discreetly uploads a mirror image of all data on the key to a remote server. No trace of the activity is left on the host PC. Very handy for backup-obsessed users. However, the backup and recovery service comes with a price over and above the cost of the US$60 key: $30 per year (after an initial six month free trial).

I stopped next at Netgear's booth, hoping to spy a new and powerful wireless networking solution that has earned some buzz among my colleagues. I had to push my way through a crowd to get a glimpse of the HD/Gaming 5 GHz Wireless-N Networking Kit, an innovative system that involves an access tower that connects to your modem and a bridge tower that connects to any high bandwidth devices in your living room (game consoles, high-definition home theatre components, etcetera). The two towers reportedly communicate a via interference-free 5 GHz wireless protocol to stream massive amounts of data quickly and reliably. It will be released later this year in Canada for $229. Additional bridge towers will be available for $129 each.

At the end of the day I head into the show's fishy bowels, an area filled with mostly unknown vendors peddling unfamiliar technologies located at the back of the lower hall. I did this at the behest of the editor of this magazine, who wanted me to find and report on a nearly life-sized R2-D2 DLP projector made by a company called Nikko. I found the ridiculous thing parked in an inauspicious, grey booth... and immediately fell in love with it. It looks incredibly realistic, reproduces many of the robot's famous sounds, sports a DVD player, 20-watt speakers, and an iPod dock, and, well, is essentially a (read: my) geek dream come to life. And I haven't even mentioned the absurdly large Millennium Falcon remote it comes with. The 1360x768 picture isn't great, and the $2,700 price tag is steep, but, god help me, I'd love to roll R2-D2 out for my nerdy pals one evening for an all night Star Wars geekathon. Time to get on the horn for review unit....

By Chad Sapieha

Tech Training in BC

Name	Phone	Address	City
Abc Business Svc	250-286-0100	1302 Shoppers Row	Campbell River
Academy Of Learning	250-287-9850	1325 Shoppers Row	Campbell River
Academy Of Learning	250-287-3391	1265 Ironwood St	Campbell River
Academy Of Learning	604-944-8855	1180 Pinetree Way 5	Coquitlam
Academy Of Learning	250-489-5888	1007 Baker St	Cranbrook
Academy Of Learning	250-489-2751	2700 College Way	Cranbrook
Academy Of Learning	250-423-4691	342 3Rd Ave	Fernie
Academy Of Learning Computer	250-344-5901	1305 9Th St S	Golden
Academy Of Learning Computer	604-869-2279	347 Raab St	Hope
Accurate Bookkeeping	250-342-3210	1535 14Th St 2	Invermere
Advantage Business Development	250-372-5429	699 Victoria St	Kamloops
Alberni West	250-578-7280	4665 Spurraway Rd	Kamloops
Arbutus College Of Comm Arts	250-828-8772	286 St Paul St 101	Kamloops
Atlas Auto Cad & Cad Training	250-377-8009	1383 Mcgill Rd 200	Kamloops
BCIT School of Computing: Downtown Campus	604-434-5734	555 Seymour St.	Burnaby
BCIT School of Computing: Main Campus	604-434-5734	3700 Willingdon Ave.	Burnaby
College Of The Rockies	250-828-5498	900 Mcgill Rd	Kamloops
College Of The Rockies	250-868-0885	626 Barnaby Rd	Kelowna
College Of The Rockies	250-861-5808	1470 St. Paul St 206	Kelowna
College Of The Rockies	250-862-5480	1000 K.L.O. Rd	Kelowna
College Of The Rockies	250-763-7400	546 Leon Ave	Kelowna
College Of The Rockies	250-427-7116	555 Mckenzie St	Kimberley
Community Futures Dev Corp	604-532-4040	20621 Logan Ave 201	Langley
Computer Repair Svc	604-826-0626	33123 1St Ave 209	Mission
Digipen Corp	604-540-0962	10 Laguna Crt 1801	New Westminster
Discovery Community College	604-980-0897	1221 Lonsdale Ave 300	North Vancouver
Excel Career College	604-983-3722	255 1St St W 306	North Vancouver
Floppy Desk Ventures Inc	604-218-3326	3849 Phyllis Rd	North Vancouver
Focus Training Institute Ltd	250-498-6264	9315 350Th Ave	Oliver
Free Rein Assoc	250-493-3102	365 Van Horne St	Penticton
Greater Victoria School	250-770-1480	2140 Government St	Penticton
Half Price Computer Books	250-492-4305	583 Duncan Ave W	Penticton
House Calls-The Computer Tutor	250-723-4499	6070 Kitsuksis St	Port Alberni
Kamloops Business Svc & Trng	250-752-3497	3195 Island Hwy W	Qualicum Beach
Ken'S Computers	250-833-1002	1151 10 Ave Sw 135A	Salmon Arm
Kimco Controls Ltd	250-425-7104	609 Douglas Fir Rd	Sparwood
Langara College	604-580-2133	13450 102 Ave 295	Surrey
Mc Lin Computer/Accounting	604-681-7701	555 Hastings St W	Vancouver
Mission Community Skills Ctr	604-682-0300	530 Hornby St	Vancouver
Okanagan University College	604-876-1007	520 8Th Ave W 4C	Vancouver
Okanagan University College	604-323-5511	100 49Th Ave W	Vancouver
Okanagan University College	604-683-0020	650 Georgia St W 1600	Vancouver
On Track Computer Training	604-443-8300	250 Pender St W	Vancouver
Shoreline Middle School	250-558-0855	3100 30 Ave 200	Vernon
Sprott-Shaw Community College	250-388-0206	477 Lampson St 40	Victoria
Sprott-Shaw Community College	250-385-1333	975 Fort St	Victoria
Thompson Rivers University	250-480-0558	1551 Pandora Ave	Victoria
Trend College	250-360-4332	923 Topaz Ave	Victoria
Vancouver Career College	250-386-8367	2750 Shoreline Dr	Victoria
Vancouver Career College	250-384-8121	2621 Douglas St 200	Victoria
Vancouver Community College	250-398-8855	29 Third Ave S D	Williams Lake

News Briefs

MacBook Air revealed at Macworld

at 4mm at its thinnest point and 19mm at its thickest the MacBook Air is a veritable waif...

At Macworld in San Francisco, Apple announced the MacBook Air (www.apple.com/ca/macbookair). This ridiculously thin portable does away with optical drives (USB drives available as an add-on), Ethernet and multiple USB ports to deliver what Apple claims is the world's thinnest notebook. It's a believable claim too; at 4mm (0.16-inches) at its thinnest point, the MacBook Air is a veritable waif. At its thickest point, the Air comes in at 19mm (0.76-inches) which Apple says bests the thinnest point on competing books.

In among its firsts: first production notebook available in Canada with 802.11n on board (that we know of), the first to come it at 4mm at its thinnest point, first to 19mm at its thickest, there's a more disturbing first. The Mac Book Air is the first notebook we've heard of that has a non-user replacable battery. If your ultra slick ultraportable starts to lose its ability to hold a charge, that's a service issue as opposed to a quick (and admittedly expensive) trip to the store issue.

While their have been some sacrifices made in the overall specs of the MacBook Air as compared with similarly priced Apple and competing books, it's arguably a small price for a fully functional computer that is instant-on and that fits inside a manila envelope (that's how Apple guru Steve Jobs presented the new book at Macworld). The appropriately titled Air doesn't sacrifice too much screen real estate (13.3-inch), has a full size keyboard and that adds in a series of usability tweaks like backlit keys that automatically adjust to suit the environment. Apple's recent multi-touch gestures where users can tap, scroll, swipe and pinch the touchpad for iPhone-like control of their media are present and accounted for on the latest in the line.

The MacBook Air will begin shipping from US and Canadian Apple stores (www.apple.com/canadastore) in two weeks at a base price of $1,899 (CAN).

MacBook Air base configuration

- 13.3-inch LED-backlit glossy widescreen display with 1280x800 resolution;
- 1.6 GHz Intel Core 2 Duo processor with 4MB L2 cache;
- 800 MHz front-side bus;
- 2GB of 667 MHz DDR2 SDRAM;
- 80GB hard disk drive with Sudden Motion Sensor;
- Intel Graphics Media Accelerator X3100;
- Micro-DVI port (includes Micro-DVI to VGA and Micro-DVI to DVI Adapters);
- built-in iSight video camera;
- built-in AirPort Extreme 802.11n wireless networking and Bluetooth 2.1+EDR;
- one USB 2.0 port;
- one headphone port;
- multi-touch TrackPad with support for advanced multi-touch gestures including tap, scroll, pinch, rotate and swipe; and
- 45 Watt MagSafe Power Adapter

Adding in a 64GB solid state hard drive and upping the processor clock speed adds considerably to the price; MacBook Air with these enhancements clocks in at $3,248 (CAN).

Marketplace PROFILE

Internet Service Provider Locator

Data courtesy CanadianISP.com. For head-to-head comparison and the most recent ISP information, visit www.CanadianISP.com.
While we strive to bring you the most accurate and up-to-date information, please contact ISPs to confirm details.

Company Name	cable	dialup	.dsl	drydsl	isdn	p2p	sat	wir	anti-spam	web-space	allow server	usenet	voip	url	phone	email
100 Mile NetShop Ltd.	✗	$19.95	$34.95	✗	✗	✗	✗	$39.95	✗	✓	✗	✓	✗	www.bcinternet.net	250-395-5439	accounts@bcinternet.net
1stAccess Internet	✗	✗	$24.95	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.1staccess.ca	877-779-9157	sales@1staccess.ca
295.ca	✗	$2.95	$19.95	$39.95	✗	✗	✗	✗	✓	✓	✗	✗	✗	www.295.ca	416-848-8429	mb@295.ca
3web	$24.95	$4.95	$24.95	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	www.Get3web.com	866-438-8393	sales@3web.com
995.ca	✗	$9.95	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	www.995.ca	866-995-5099	sales@995.ca
ABC Communications	✗	$9.95	$30.95	✗	✗	✗	✗	$39.95	✓	✓	✗	✓	✓	www.abccomm.com	250-612-2527	info@abccomm.com
Accelerated Connections	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	www.dsl4u.ca	905-660-0878	sales@accelerated connections.com
AEBC Internet Corp.	✗	$10.00	$29.95	$39.95	$295	✗	✗	$200	✓	✓	✗	✓	✓	www.aebc.com	604-288-8108	info@aebc.com
AirCelerator Wireless Inc.	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	www.airc.ca	604-484-4449	info@airc.ca
All Canadian Dialup	✗	$0.01	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	www.zeuter.com	877-236-6342	sales@zeuter.com
Altima.Net INTERNET	$26.95	$9.95	$24.95	$29.95	✗	✗	✗	✗	✓	✓	✗	✓	✗	http://global.ca	866-990-0614	admin@altima.net
AOL Canada Inc.	✗	$24.95	$44.95	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	http://aol.ca	800-274-4279	IMAdSales@aol.com
ASERTY Enhanced Internet Services	✗	$5.50	$33.95	$43.95	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.aserty.com/	866-746-6651	service@aserty.com
ASISNA	✗	$14.95	✗	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	www.asisna.com	509-535-5116	support@asisna.com
auracom/Interhop	$24.95	$11.95	$24.95	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	www.auracom.net	877-688-8812	sales@auracom.net
B2B2C High Speed Internet	$34.95	$8.95	$9.95	$18.90	✗	✗	✗	$199	✓	✓	✗	✗	✓	www.b2b2c.ca/b2b2c_cisp	800-965-5906	sales@b2b2c.ca
Bike Networks Ltd	✗	✗	✗	✗	✗	$425	✗	$425	✓	✗	✗	✗	✗	www.bikenetworks.com	403-462-2223	info@bikenetworks.com
Broadband Ontario Incorporated	✗	✗	✗	✗	✗	✗	$69.99	$49.95	✗	✗	✗	✗	✗	www.broadbandontario.com	866-870-0076	sales@broadbandontario.com
Canada.CrosswayISP	✗	$17.95	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	http://Canada.crosswayisp.com	877-281-1367	admin@crosswayisp.net
Canquest Communications (Online) Inc	✗	$10.00	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	www.gocanquest.com	519-351-1864	sales@canquest.com
Caylix Internet Solutions	✗	$17.95	$41.95	✗	✗	✗	✗	$49.95	✓	✓	✗	✗	✓	www.caylix.com	604-792-2656	info@caylix.com
CityTel Internet	✗	$11.95	$39.95	✗	✗	✗	✗	✗	✓	✓	✗	✗	✓	www.citytel.net	250-627-7787	info@citytel.net
Club Plus Internet	✗	$7.95	✗	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	www.clubplus.net	514-990-0675	info@clubplus.net
Colosseum Online Inc.	✗	$15.99	$28.85	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	www.colosseum.com/	416-739-9787	info@colosseum.com
Colosseum Online Inc.	✗	$15.99	$28.85	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	www.colosseum.com/	416-739-9787	info@colosseum.com
Columbia Wireless Inc	✗	✗	✗	✗	✗	✗	✗	$49.95	✓	✓	✗	✗	✗	www.columbiawireless.ca	250-505-5404	sales@columbiawireless.ca
Columbia Wireless Inc	✗	✗	✗	✗	✗	✗	✗	$49.95	✓	✓	✗	✗	✗	www.columbiawireless.ca	250-505-5404	sales@columbiawireless.ca
Computer Access Center	✗	$15.00	✗	✗	✗	✗	✗	$50.00	✓	✓	✗	✓	✗	http://wlake.com	250-392-2664	rjsardy@wlake.com
Craig Wireless	✗	✗	✗	✗	✗	$54.95	✗	$41.95	✓	✓	✗	✗	✗	www.craigwireless.com	888-244-4554	info@skyweb.ca
CRCable.Net Ltd.	$39.90	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.crcable.net/	888-729-9078	support@crcable.net
DialTrax	✗	$12.95	✗	✗	$19.95	✗	✗	✗	✓	✓	✗	✓	✗	www.dialtrax.net	434-836-6403	sales@dialtrax.net
DialupAtCost	✗	$9.95	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	www.dialupatcost.ca	416-440-0266	sales@dialupatcost.ca
Dowco.com Internet	✗	$9.95	$24.95	✗	$19.95	✗	✗	✗	✓	✓	✗	✗	✗	www.dowco.com/index.php	604-606-6572	info@dowco.com
Execulink	$24.95	$17.95	$31.95	$10.00	✗	✗	✗	$49.95	✓	✓	✗	✓	✓	www.execulink.com	877-393-3285	mailbox@execulink.com
Figment Cablesystems Inc.	✗	$9.16	$36.95	✗	✗	✗	✗	$34.95	✓	✓	✗	✗	✗	www.figment.ca	866-344-4636	sales@figment.ca
Galaxy Broadband Communication Inc.	✗	✗	✗	✗	✗	✗	$79.99	✗	✗	✗	✗	✗	✗	www.galaxybroadband.ca	905-827-7858	sales@galaxybroadband.ca
Hey-Ya! Dialup	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	www.hey-ya.net	920-465-5023	sales@hey-ya.net
Horizon Net	✗	$7.95	✗	✗	$7.95	✗	✗	✗	✓	✓	✗	✗	✗	http://horizonnet.ca/	250-361-1441	sales@horizonnet.ca
HotDealsCanada	✗	$6.25	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	www.hdcanada.com	866-799-9609	info@hdcanada.com
HotLinc.com	✗	$14.95	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.hotlinc.com	281-642-2402	info@hotlinc.com
Ideal Access	✗	$9.95	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	http://ideal-access.com	888-478-8273	info@ideal-access.com
Information Gateway Services	✗	$10.95	$34.95	✗	$10.95	✗	✗	✗	✓	✓	✗	✓	✗	www.igs.net	800-268-8371	sales@igs.net
Inter.net Canada	✗	$7.95	$29.95	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	www.ca.inter.net	514-481-1258	sales@ca.inter.net
Iready Communications Corp.	✗	$13.95	$34.95	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	www.iready.ca	604-247-7123	sales@iready.ca
Island Internet Inc.	$19.95	$9.95	$24.95	✗	$9.95	✗	✗	✗	✓	✓	✗	✗	✗	www.island.net/	250-753-3113	info@island.net
ispeed Communications	✗	✗	✗	✗	✗	✗	✗	$38.88	✗	✗	✗	✗	✗	www.ispeed.biz	250-717-7783	dave@ispeed.biz
Lightspeed Communications	✗	$9.99	$26.95	$26.95	✗	✗	✗	✗	✓	✓	✗	✗	✗	www.lightspeed.ca	604-482-2119	sales@lightspeed.ca
Lions Gate Internet Ltd.	✗	$10.00	$34.95	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	www.lgisp.net	604-694-4119	info@lgisp.net
LOGIX	✗	$16.95	$24.95	$39.95	$21.95	✗	✗	✗	✓	✓	✗	✗	✓	www.logix.com	877-564-4492	sales@logix.com
Look Communications	✗	$10.00	$37.00	✗	✗	✗	✗	$19.95	✓	✓	✗	✗	✗	www.look.ca	800-356-6566	mboudreau@team.look.ca

Business Directory

Internet Service Provider Locator

Data courtesy CanadianISP.com. For head-to-head comparison and the most recent ISP information, visit www.CanadianISP.com.
While we strive to bring you the most accurate and up-to-date information, please contact ISPs to confirm details.

Company Name	cable	dialup	dsl	drydsl	isdn	p2p	sat	wir	anti-spam	web-space	allow server	usenet	voip	url	phone	email
Lynx Communications	✗	$10.00	$34.50	✗	$30.00	✗	✗	✗	✗	✓	✗	✓	✗	www.lynx.net	604-638-8181	info@lynx.net
Mascon Cable Systems	$31.95	✗	✗	✗	✗	✗	✗	$41.95	✓	✓	✗	✓	✓	www.masconcable.ca	866-832-2602	info@masconcable.ca
Mascon Cable Systems	$31.95	✗	✗	✗	✗	✗	✗	$41.95	✓	✓	✗	✓	✓	www.masconcable.ca	866-832-2602	info@masconcable.ca
MCI Canada	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	www.weknowip.com/	800-463-3812	webhosting@ca.mci.com
MetroBridge Networks	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	www.metrobridge.com	604-628-8124	info@metrobridge.com
Muskoka Online	$44.95	$10.99	$39.99	✗	✗	✗	✗	✗	✓	✗	✗	✓	✗	www.muskokaonline.com	705-788-8787	sales@surenet.net
MyCanadaOnline.Ca	✗	$10.99	✗	✗	✗	✗	✗	✗	✓	✗	✗	✓	✗	http://mycanadaonline.ca	888-505-5542	admin@mycanadaonline.ca
MyCommunityMatters.net	✗	$18.99	✗	✗	✗	✗	✗	✗	✓	✗	✗	✓	✗	www.mycommunitymatters.net	541-846-6045	info@mycommunitymatters.net
Navigata Communications Ltd.	✗	$25.00	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓	www.navigata.ca	877-477-7526	business@navigata.ca
NCTel inc	$27.50	$15.95	$34.95	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.nctel.ca	866-780-0859	ventes@nctel.ca
NetAnywhere Broadband	✗	✗	✗	✗	✗	✗	✗	$39.95	✓	✓	✗	✓	✓	www.netanywhere.ca	604-856-6820	salesteam@netanywhere.ca
Netkaster Satellite Internet	✗	✗	✗	✗	✗	✗	✗	$59.95	✗	✗	✗	✗	✗	www.netkaster.ca	877-991-1560	info@netkaster.com
Netscape Online	✗	$18.95	$39.95	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	www.netscape.ca	866-638-8722	info@netscape.ca
NINA-IT International	✗	$7.99	$24.95	$39.95	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.ninait.com	514-752-2106	info@ninait.com
Northwestel	✗	✗	$59.95	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.nwtel.ca	888-423-3233	customerservice@nwtel.ca
NowCom Wireless	✗	✗	✗	✗	✗	✗	✗	$49.95	✗	✗	✗	✗	✗	www.nowcom.ca	800-898-8776	alex@nowcom.com
Nucleus Inc.	✗	$9.95	$29.95	✗	$9.95	✗	✗	✗	✓	✓	✗	✓	✗	www.nucleus.com	403-209-9000	info@nucleus.com
Okanagan.net	✗	$14.95	✗	✗	✗	✗	✗	$34.95	✗	✓	✗	✓	✗	www.okanagan.net	250-860-0269	info@okanagan.net
Open Concept Internet, Inc.	✗	$12.50	$35.00	$48.00	$16.67	✗	✗	✗	✓	✓	✗	✗	✗	www.ocii.com	780-408-8300	sales@ocii.com
Paragon Internet	✗	✗	✗	✗	✗	✗	✗	$39.95	✓	✓	✗	✓	✗	www.paragonbc.com	250-766-6416	same
Peace Region Internet Society	✗	$20.00	$33.99	✗	$20.00	✗	✗	$30.00	✓	✓	✗	✓	✗	www.pris.ca	250-782-2512	pris@pris.ca
Phreego, LLC	✗	$9.95	✗	✗	✗	✗	✗	✗	✓	✗	✗	✓	✗	www.phreego.com	517-420-0736	helpdesk@phreego.com
PublicNet Canada	✗	$9.99	$39.99	$34.99	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.publicnet.ca	877-784-4393	sales@publicnet.ca
PureSpeed.ca	✗	$14.99	✗	✗	✗	✗	✗	✗	✓	✗	✗	✓	✗	http://purespeed.ca	866-777-7163	sales@purespeed.ca
Questzones.net	$42.95	$12.95	$55.00	✗	$99.00	✗	✗	$59.95	✓	✓	✗	✓	✗	www.questzones.com	450-435-5293	mboisvert@questzones.com
Radiant Communications	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	www.radiant.net	877-311-1272	calgary@radiant.net
shaw.webworx.ca	$24.95	$24.95	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	http://shaw.webworx.ca	403-730-0204	info@webworx.ca
Sinkutwireless	✗	✗	✗	✗	✗	✗	✗	$39.95	✓	✓	✗	✓	✗	www.sinkutwireless.ca	250-567-7003	sales@sinkutwireless.ca
sinkutwireless.ca	✗	✗	✗	✗	✗	✗	✗	$59.95	✓	✓	✗	✓	✗	www.sinkutwireless.ca	250-441-1008	wesley@sinkutwireless.ca
SkySurfer Communication Corp.	✗	✗	✗	✗	✗	✗	✗	$29.95	✓	✓	✗	✓	✗	www.skysurfer.ca	250-487-7999	malamb@skysurfer.ca
Skyway West	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.skywaywest.com	604-482-2122	sales@skywaywest.com
SmarttNet, 2ic Systems Inc.	✗	$10.00	$34.95	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	http://web.smartt.com	604-473-3970	sales@smartt.com
SmokeSignal	✗	$19.95	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.smokesignal.net	866-517-7639	mason@smokesignal.net
Sonic Networks Inc.	✗	$12.95	$34.95	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	www.gosonic.com	877-467-7664	info@gosonic.com
SonicLynx.ca	✗	$19.95	$29.95	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.soniclynx.ca	866-803-3365	sales@soniclynx.ca
Starweb Technologies	✗	$12.95	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.starwebtechnologies.com	877-337-7882	sales@starwebtechnologies.com
SureNet Communications	$44.95	$22.95	$39.99	✗	✗	✗	✗	$39.99	✓	✓	✓	✓	✗	www.surenet.net	866-700-0197	sales@surenet.net
TekSavvy Solutions Inc.	✗	$7.99	$24.95	$37.20	✗	$1,500	✗	$29.99	✓	✓	✗	✓	✓	www.teksavvy.com	877-779-9157	sales@teksavvy.com
TeraGo Networks Inc.	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	www.terago.ca	866-837-7246	frank.baldwin@terago.ca
TOAST.net Internet Service	✗	$9.95	✗	✗	✗	✗	✗	✗	✓	✗	✓	✓	✗	www.toast.net/agents/link.asp?adv=can-isp	888-862-2786	sales@toast.net
Tube-e Communications Inc	✗	$10.95	$39.95	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	www.tube-e.com	416-784-4123	sales@tube-e.com
Vancouver CommunityNet	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	http://vcn.bc.ca	604-257-7381	office@vcn.bc.ca
Victoria Free-Net Association	✗	$15.00	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✗	http://victoria.tc.ca	250-479-9285	shearman@victoria.tc.ca
VIF Internet	24.95	$9.95	$24.95	34.95	$14.95	✗	✗	✗	✓	✓	✗	✓	✗	www.vif.com/	888-321-3737	info@vif.com
WebNet Broadband Wireless	✗	$9.99	✗	✗	✗	✗	✗	$29.99	✓	✓	✓	✓	✗	www.webnetcwn.com	604-557-7955	info@webnetcwn.com
WiBand Communications Corporation	✗	✗	$24.95	✗	$14.95	$395	✗	$395	✓	✓	✗	✓	✗	www.wiband.com	403-230-0041	gene@wiband.com
Wink Wireless	✗	✗	✗	✗	✗	✗	✗	$49.95	✗	✗	✗	✗	✗	http://Winkwireless.ca	250-346-6300	wee@uniserve.com
Wink Wireless	✗	✗	✗	✗	✗	✗	✗	$49.95	✗	✗	✗	✗	✗	http://Winkwireless.ca	250-346-6300	wee@uniserve.com
Zeuter Development Corporation	✗	$0.01	✗	✗	✗	✗	✗	7	✓	✓	✗	✓	✗	www.zeuter.com	705-746-6462	sales@zeuter.com

Advertisers Index

Company Name	Address	City	Province/State	Website
1stDataRecovery.com	745 - 1050 West Pender St.	Vancouver	BC	www.1stDataRecovery.com
3J Computers	5307 Victoria Dr	Vancouver	BC	www.3jDataRecovery.com
A - Linx Computer	7176 120 St.	Surrey	BC	www.alinx.ca
A - Power Computer Ltd.	101 - 11211 Bridgeport Road	Richmond	BC	www.a-power.com
ADDAX High Tech Ltd.	160 - 12111 Bridgeport Rd	Richmond	BC	www.addaxcomputer.com
Allway Technologies Inc.	5 - 3671 Viking Way	Richmond	BC	www.allway.ca
Anitec Computer Technology	2185 Kingsway	Vancouver	BC	www.anitec.ca
BCIT Marketing and Public Affairs	NW1, 3700 Willingdon Ave	Burnaby	BC	www.bcit.ca
Brother Canada	1 Hotel De ville	Dollard-des-Ormeaux	QC	www.brother.ca
CBL DATA RECOVERY TECHNOLOGIES INC.	590 Alden Rd., Unit # 105	Markham	ON	www.cbltech.ca
CompuTrak System	#5 - 11240 Bridgeport Road	Richmond	BC	www.computraksystem.com
Crystal Computer Ltd.	Unit 6, 3490 Kingsway	Vancouver	BC	www.cclcpr.com
Discount Mac Club	145 - 4471 No. 6 Rd	Richmond	BC	www.dmac.ca
EXPC Technology Corp.	#1688 - 4500 Kingsway	Burnaby	BC	www.expc.ca
Fun Promotions Inc.	10-22711 Norton Crt	Richmond	BC	www.geocities.com/turnbuckle99
Future Solutions Computer Ltd	8112 Park Road	Richmond	BC	www.futuresolutions.ca
Generic Computers	1266 West Broadway	Vancouver	BC	www.genericcomputer.com
Global Ideas	Unit 120 - 4011 Viking Way	Richmond	BC	www.globalideas.com
Globalcoast Technology Inc.	#540 - 3771 Jacombs Road	Richmond	BC	www.globalcoast.com
ICI Computer Inc.	1005 - 8580 Alexandra Road	Richmond	BC	www.icicomputer.com
iLync Technology Inc.	3978B East Hastings St.	Burnaby	BC	www.ilync.com
In2net Networking Inc.	Suite 210 - 3602 Gilmore Way	Burnaby	BC	www.in2net.com
Incredible Satellites, A division of SFS Solutions Inc.	106 - 13569 76 Ave.	Surrey	BC	www.incrediblefta.com
Memory Depot	2680 Moquin	Brossard	QC	www.memorydepot.com
Microtech Cyber Service	1923 E. Broadway	Vancouver	BC	www.microtechpc.ca
Multimedia FX	110 Riviera Drive	Markham	ON	www.mdsfirst.com
NCIX	Unit #105 - 4620 Viking Way	Richmond	BC	www.ncix.com
Netfirms, Inc.	5160 Yonge Street, Suite 1800	Toronto	ON	www.netfirms.ca
Olympus	2200 Yonge Street, Suite 1711	Toronto	ON	www.olympus.com
Phase 1 Systems Corp	410 Willingdon Ave	Burnaby	BC	www.phase-1.com
Powersonic Computers	104 - 11400 Bridgeport Rd.	Richmond	BC	www.powersonic.ca
Progress Marketing Inc.	#110 - 12811 Clarke Place	Richmond	BC	www.progressmarketing.com
Restoring Data Inc.	Suite 500 - 666 Burrard St.	Vancouver	BC	www.restoringdata.ca
Sig Electronics	245 WEST BEAVER CREEK RD, Unit 9	Richmond Hill	ON	www.sigelectronics.com
SimStar Electronic	153 - 5951 Minoru Blvd.	Richmond	BC	www.simprobc.com
SLACO Computer	Unit 1116 - 7318 137 St.	Surrey	BC	www.slacocomputer.com
TechNo Trash Recycling	455 Industrial Ave	Vancouver	BC	www.technotrashrecycling.com
Thermaltake Technology Inc.	525 Parriott Place	City of Industry	CA	www.thermaltake.com
Vantec Thermal Technology Inc.	43951 Boscell Road	Fremont	CA	www.vantecusa.com
Vastech Computer	3967 Main St.	Vancouver	BC	www.vastechcomputer.com

www.hubcanada.com

Canadian
Consumer electronics,
Computing,
Contests &
Commentary

The Last Byte

How's your I/O IQ?

As I sifted through the hundreds of press releases generated from last month's Consumer Electronics Show, I detected a pattern in my news sniffing. I'm an electronics junkie and thus find everything somewhat interesting, but what seems to especially captivate me are developments in I/O.

I'll be the first to admit that the mouse and keyboard are pretty hard to surpass for efficiency of input. But they are not particularly friendly to human bodies, so the prospect of something better keeps developers working and techies like me searching. A decade ago the input darlings were voice, gestures and even eyeball control. I remember testing successive versions speech to text products like Dragon Dictate, IBM ViaVoice and L&H VoiceExpress. There was a cross-over point when the software was accurate enough and the computer hardware was fast enough to ensure a decent experience, and I remember thinking: this is actually usable. Today do you use speech recognition software? I don't, and haven't for several years, and the reason is simple — it's hard, as hard if not harder than using a keyboard. To use it well, you need to train yourself, just as you need to train yourself in keyboarding skills. And you won't necessarily escape bodily harm from this alternative method of input. I recall a publicized case of a reporter that turned to speech recognition because of repetitive strain injury, and ended up with vocal cord injury too. This wasn't an isolated case. Both Windows Vista and Mac OS X include speech engines, and they serve as a useful utility in some circumstances. But as a universal alternative to the keyboard and mouse? I think not.

Productivity is just one thing we want from computers. There are a lot of leisure activities, and here I/O has seen more interesting advances. A few years ago, prototype play gloves were making their rounds at CES and other tech trade shows. These track hand and finger movements and turn them into some kind of programmable computer input. Gaming is the beneficiary of a lot of this technology, witness the current success of the Wii wands. Other forms of gaming such as flight simulation or auto racing have already reached a quite sophisticated level in I/O devices, with force feedback and surround sound to add dimensions beyond the visual experience, and steering wheels or joysticks that are close replicas of what you'd find in an F1 race car or F16 fighter jet for authentic feel.

Kicking it up a notch, Kelowna, BC-based FMS Flight Motion Simulators Inc. has a product called the Dreamflyer, which is a flight simulator for your home. Taking up a one by two metre (3x6 ft) footprint, the Dreamflyer consists of a cockpit (chair, provision for up to three flat panel screens, and hand and foot controls) suspended in an outer frame using a patent-pending gimbal system. It doesn't need hydraulics to recreate the motion effects that are synonymous with flight simulators, relying instead on the gravitational effects of the player moving in the suspended cockpit to cues from the flight sim software. It can generate pitch and roll motion of up to plus-minus 15 degrees, according to the company.

Immersive reality for some types of gaming is the body suit, with sensors to turn your whole body into programmable I/O points. A company called TN Games has a product called the FPS Vest System which provides force feedback to a game player's torso — feel that kick. This year it advanced that with the 3rd Space HXT (Head and eXTremities) Gear, which brings the player's head and the four extremities into the game.

A lot of the gaming gear is about tactile feedback but much of what we do or want to do with other electronics these days still involves sight — witness the explosion of smartphones and other kinds of media players. New screen technology has allowed these to have small displays with superlative resolution — but the problem is, they're still small displays. Miniaturized projection engines are starting to wiggle out of the labs to create a new category of product called the pico projector. I saw a picture of one prototype that was around the same size as a man's wallet it was posed with. This technology has some intriguing possibilities. Imagine a pico projector being built into your digital camera, or camcorder — the ultimate in shoot 'em and show 'em convenience.

But why bother projecting on a wall, why not have the wall itself be the display? A few years ago I attended a briefing with Philips' advanced technology group. They were talking about paintable displays, which would allow you to transform an entire wall in your house into a computer screen or TV display.

If you start connecting the dots between all those technology bits you have the protoplasm for that fictional holodeck on the Star Trek TV series. And don't get me started on advances in androids. Things really may be closer than they appear.

Same space next month

"MINE IS WWW.CHARLOTTESCUPCAKES.CA"

WHAT'S YOURS?

REGISTER YOUR .CA DOMAIN FOR **$9.95 PER YEAR.** THE LOWEST PRICE IN CANADA.
VISIT **WWW.NETFIRMS.CA** OR CALL **1-866-761-6399** TO GET YOUR NEW DOMAIN COOKING.

Your domain is your place on the web. Make it your own with a trusted .ca domain name from Netfirms.
Complete with a fully customizable webpage, e-mail, easy registration and a satisfaction guarantee.

netfirms®

Domain Names – E-mail – E-commerce – Website Design – Web Hosting